The SHIPPING WORLD

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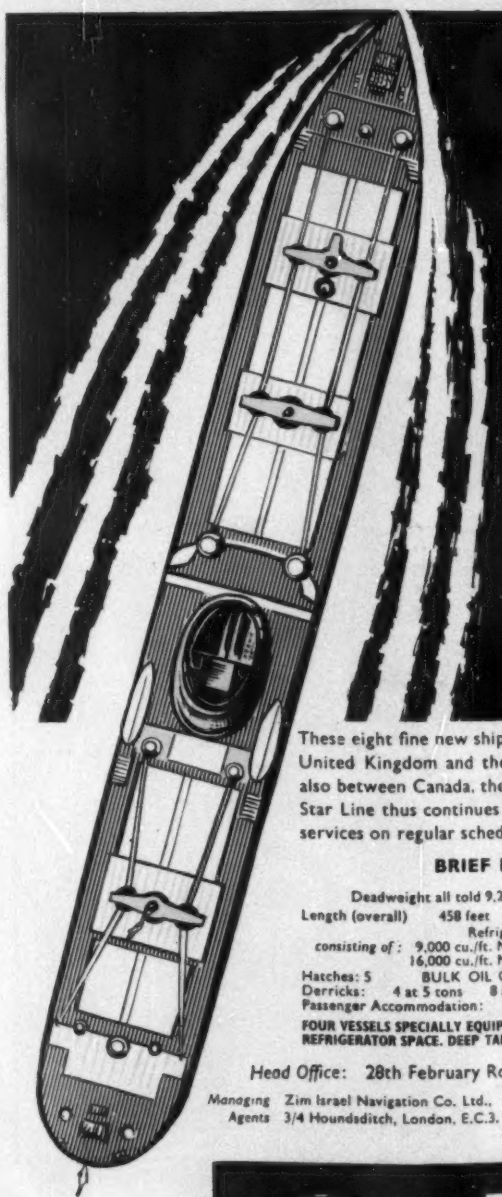

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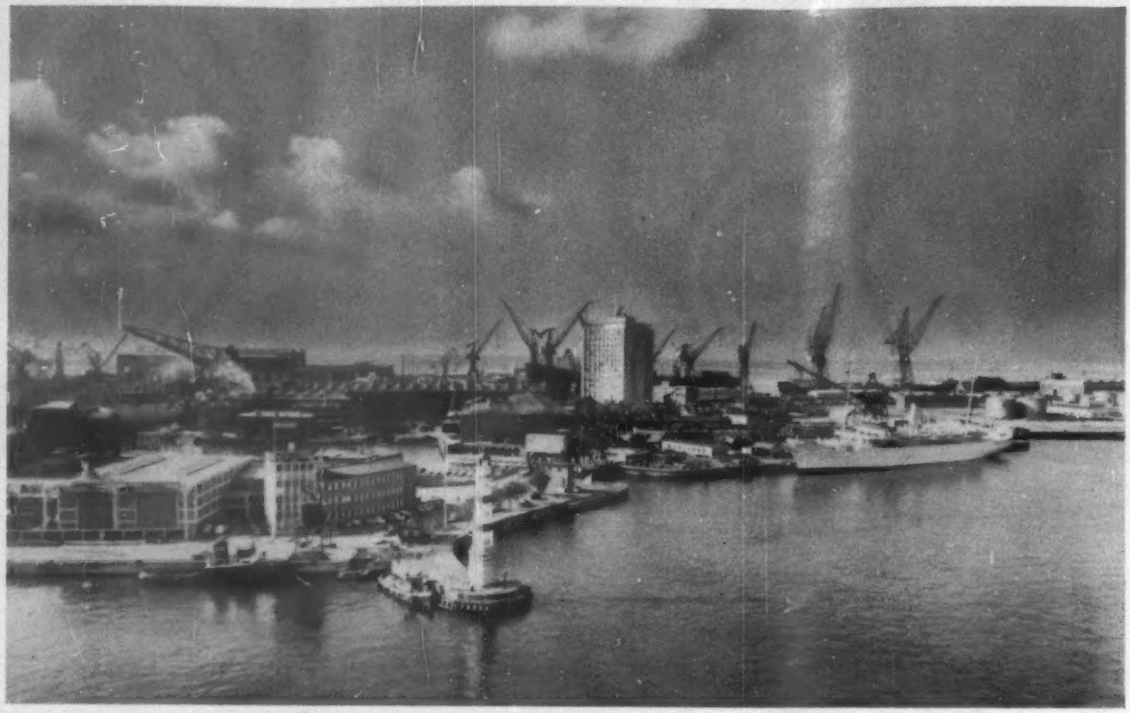

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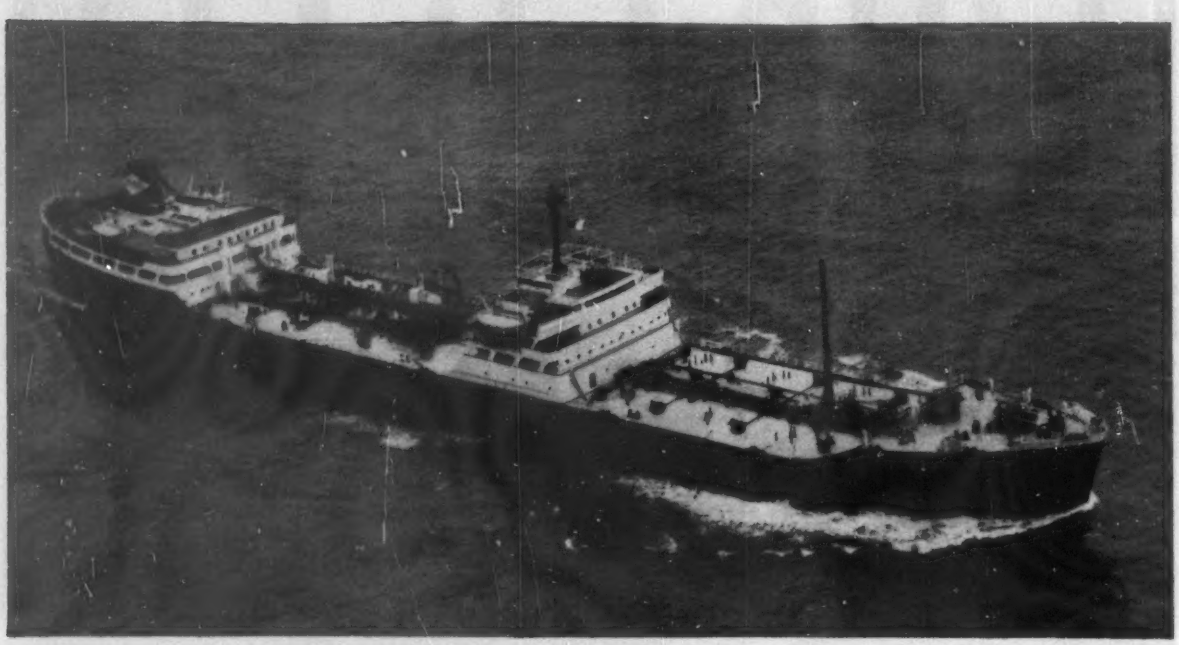

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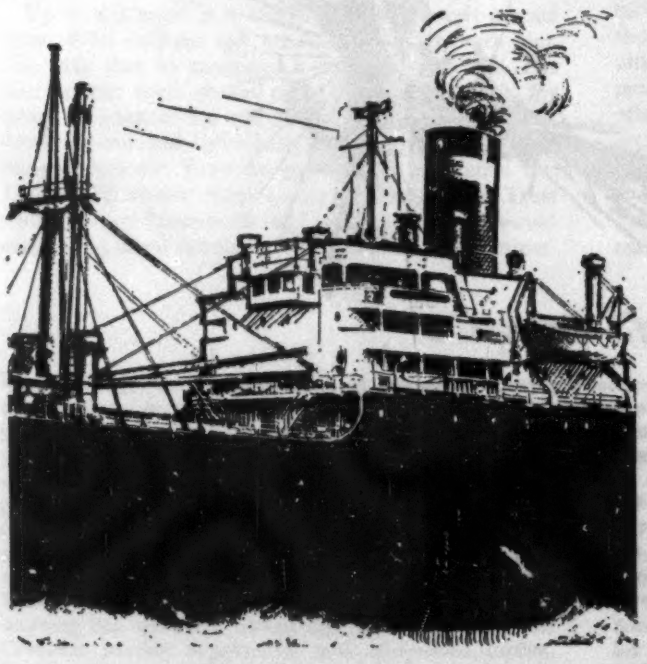

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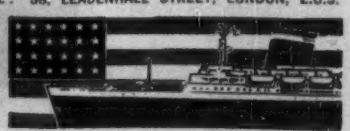

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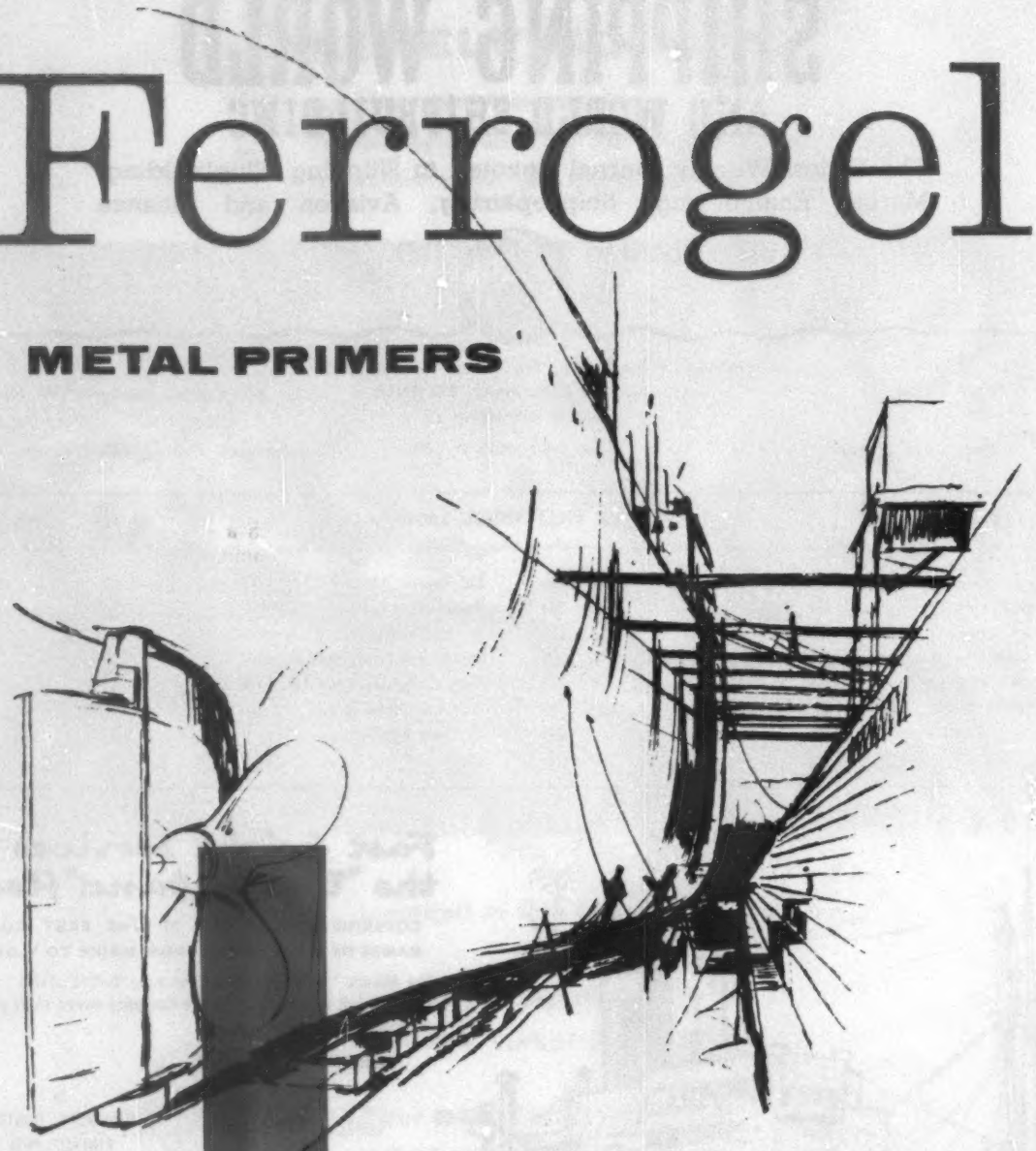

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A PLAN FOR SECURITY

THE PRESIDENTIAL ADDRESS which Mr Iain Stewart, chairman of Thermotank Ltd, gave to the Institution of Engineers & Shipbuilders in Scotland last week was in many ways notable. It is the custom on these occasions for the new president of a technical society to discuss some aspect of the industry with which he is particularly well acquainted. Mr Stewart's record as an enlightened employer in his family business, together with the importance of the subject, made his choice—the current problems of the labour side of industry—a very apt if an unusual one.

Mr Stewart has recently given up a number of directorships and reduced his business activities. He has used some of the spare time that resulted to study the history of British trade unions, and this history was dealt with in the opening part of his address. Its importance, as he reminded his listeners, lies in the fact that so much of the mental background of trade unionists today is conditioned by the past. As he sees it, the greatest concern of the average worker is for security, and he puts forward a bold plan to meet this need.

Up to this point it is likely that Mr Stewart carried most of his listeners and subsequent readers with him. The plan that he suggested is more controversial. His idea is that there should be a new organisation, for which he suggests the name "National Security Trust". Trade unions and individuals would have the right to register with the Trust on payment of an annual fee. This would entitle them to certain rights. The Trust would receive funds from the Government which would comprise a fixed percentage of industrial and commercial profits, and these would be used to provide industrial pensions and unemployment and redundancy benefits, as well as such things as craft scholarships and other training. All these benefits, however, would be given in return for a written undertaking that unofficial strikes, irresponsible demarcation disputes, ballot rigging and such restrictive practices as might be specified should be eliminated, and a defined form of arbitration accepted.

How successfully such a scheme would work out in practice is a matter of opinion. It would seem to overlap considerably the existing framework of national benefits, and it would not be possible to eliminate this overlapping while trade unionists had the right of opting out of the National Security Trust. The carrot can be made tempting, but the stick cannot take the form of reducing existing benefits for the non-cooperative. But Mr Stewart has certainly performed a service, even if it turns out that he has done no more than provide a starting point for talking and thinking. If a range of schemes, between them covering all practical possibilities, can be worked out, put forward and discussed, the atmosphere in industry will be conditioned for the ultimate acceptance of one of them. This, of course, presupposes that a national scheme of some sort or other is the best solution. There may not be general acceptance of this idea, but it is certainly one with a great deal to recommend it, and its success in one of Britain's principal shipbuilding competitors is shown by the recently-published report of the productivity team that visited Sweden.

Current Events

Common Market Caution

SPEAKING at the annual dinner of the Chamber of Shipping on Thursday, Mr Errington Keville, this year's president, covered a number of subjects. One of them was the Common Market, on which he displayed a not unreasonable caution, merely stressing the way in which Commonwealth trade links and British shipping are interdependent. While British politicians continue to insist that the Commonwealth comes first, and the Common Market second, this is about as far as a spokesman for shipping can go. The testing time will come when the Common Market negotiations have progressed further, because they may well reach a stage where Britain will have to choose between Commonwealth and Europe. If this stage should come, that will be the time to remind the politicians of what they have said. There would seem to be no reason in principle why Britain should not combine European and Commonwealth links, but of course personalities are involved as well as principles. However it must be recognised that a threat to British connections with the Commonwealth is a threat to British shipping.

Marine Safety Award

THE FIRST marine safety award to a British ship was presented last week to Captain J. Gillies, master of the tanker *Caltex London*, on behalf of the ship's personnel, by Sir Howard Roberts, president of RoSPA (The Royal Society for the Prevention of Accidents). The award was for sailing for twelve consecutive months in worldwide trade without a single "lost time" injury having occurred on board. This marks a further stage in the marine safety programme which has been developed since the owning firm, Overseas Tankship (U.K.) Ltd, was founded in 1950. American companies have always been more progressive and active in promoting safety measures and

"education" of personnel against accidents than their British counterparts, and all the Caltex marine companies now have a full safety organisation which covers all aspects of marine safety and fire prevention, including the publication of a monthly Safety Bulletin for distribution to all ships of their fleet. The safety award scheme promoted by Overseas Tankship is the first specifically maritime scheme supported by RoSPA, and the *Caltex London* is the first vessel to qualify under it, although five more Caltex vessels have since acquired this distinction. The Society naturally hopes that other British shipping companies will join the scheme. It would certainly be worthwhile, both from the human and economic point of view, if the idea of a marine safety award helps to eliminate personal injury.

Australian Shipping Developments

THE fifth annual report of the Australian Coastal Shipping Commission, trading as the Australian National Line, shows a profit for the year ended 30 June 1961 of £1,433,739, after providing £969,564 for taxation. The sum of £400,000 has been transferred to general reserve, which now stands at £1,000,000. The report points out that this sum will provide "in some measure" for future replacement of ships at costs which are expected to be considerably in excess of the original costs, "a factor for which no allowance is made in the conventional charge for depreciation." Plans have been announced for the building of two new vessels. One will be a 7,500-dwt bulk carrier which has been specially designed for carrying bauxite, sugar, gypsum, magnesite and ilmenite from places where the depth of water is limited and where mechanical shore-loading facilities may not be immediately available. It is also intended to build a passenger and car ferry larger than the *Princess of Tasmania* to serve between Tasmania and Sydney. Since the latter vessel came into service between Tasmania and Melbourne, the number of passengers carried annually has more than doubled and the number of passenger cars has trebled. A notable feature of the progress made in the last five years has been the fact that operating costs per ton of cargo carried have been reduced substantially, even during a period of continually rising prices. This has been achieved by the introduction of new and efficient ships, with mechanisation wherever possible, and constant investigation of new and existing methods of cargo handling, ashore and on board.

Building Subsidy "Deferred"

A FURORE has arisen in Washington and throughout American shipping and shipbuilding circles over a recent decision by the Secretary of Commerce, Mr Luther H. Hodges, to "defer" action on the construction subsidy application of the Bethlehem Steel Corporation, covering two proposed American-flag ore carriers of 51,400 dwt each. This action in effect reversed the recommendation of the recently created Maritime Subsidy Board headed by the Acting Maritime Administrator, Mr Thomas E. Stakem, that the application should be granted. Ore carriers, while not eligible for operating-differential subsidy under the Merchant Marine Act, are entitled to receive construction aid, as are any merchant ships designed to ply in American foreign trade. Bethlehem lodged its application six months ago, and it was then hailed as a sign of hope for revival of the American-flag dry bulk cargo fleet. Spearheading the criticism of Secretary Hodges' decision, Mr Ralph E. Casey, president of the American Merchant Marine Institute, in a letter to the Secretary of Commerce, stressed the inadequacy for defence purposes of the U.S.-flag bulk fleet. He noted that Bethlehem was the only American steel company still operating ore vessels of American registry, even though "at operating costs approximately four times higher than those of the comparable foreign-flag ships which their competitors employ." In spite of this, he said, the company was prepared to absorb this heavy competitive handicap in operation of the two proposed giant carriers, provided it obtained construction-differential subsidy assistance as provided by the Merchant Marine Act. Such construction subsidy, he emphasised, "will not enure to Bethlehem's benefit but primarily to that of the shipyard workers who would build these vessels."

750 Years of Netmaking

FEW industries can look back on an unbroken activity of 750 years. That is the proud record of Bridport, in Dorset, which during that span of time has provided nets and cordage to the world. Bridport Industries Ltd celebrated the event on September 29 because on that Michaelmas day of 1211 an entry was made on the Pipe Roll—the Exchequer account roll still preserved at the Public Record Office in London—regarding a payment of £48 9s 7d for 1,000 ells of sailcloth and 3,000 weights of hemp twine from Bridport. Bridport sailcloth and cordage were used by the English Navy since its inception. It was in 1670 that the Bridport family of Hounsell founded a factory for the manufacture of flex and hemp yarns, lines and twines, that was eventually to become one of several enterprises which in 1947 amalgamated to form Bridport Industries Ltd. The expansion of the British Empire caused an ever increasing demand for Bridport products. Large quantities of nets and cordage were exported to the Atlantic seaboard of North America. Ships built and rigged in Bridport Harbour carried codlines to Newfoundland, bartering them for salt cod. Today over half the total production of Bridport Industries is exported to more than 60 nations, and fishing net twine made from nylon alone by Bridport Industries in 1961 would stretch 50 times round the world.

Research into Sea-Keeping Qualities—

THE RESEARCH engineering facilities of three universities will be employed under separate contracts with the U.S. Maritime Administration to study the effects of "sea slamming" on ship structures, sea-keeping qualities of ships, and ship controllability. Research by the University of California will include studies aimed at the reduction of both local structural bottom damage and superimposed hull stresses associated with sea slamming. This will involve model tests to determine the effect of ship section shape on the impact pressures and the effect of variation in bottom structural design on stresses and deflections at impact. In addition, the contract calls for the development of a long-range research programme in ship structural design and related subjects. The Massachusetts Institute of Technology contract calls for research in sea-keeping qualities of ships. This will include research into increasing ship speed in head seas, which will entail analyses of ship motion data and model experiments in regular and irregular waves, verifying by spectrum analysis their relation to actual sea states. The programme may include suggested projects for collection of full-scale data at sea, model experiments and theoretical studies, covering both hull variations and special devices for reduction of ship motions.

—and Controllability

THIRD under the Maritime Administration's research programme is a contract with Stevens Institute of Technology for long-range research in ship controllability. This will require research evaluation of the hydrodynamics of merchant ship turning and steering, looking toward

the improvement of steering in rough seas and manoeuvring qualities in restricted waters. Included will be a series of rotating arm tests for determination of coefficients in the equations of lateral motions and evaluation of course stability over a range of variations in speed and trim, and conducting free-turning tests for confirmation of turning diameters predicted from rotating arm tests. This work will be correlated with related research for the Bureau of Ships (David Taylor Model Basin) on the same model in oblique seas, leading to an interim report clarifying the problem of ship control in rough seas. Each contract calls for expenditure not in excess of $50,000.

The Proximate Cause

THE events that followed the fire in the *Grandcamp*, resulting in the Texas City explosion in 1947, are recalled by recent proceedings in the U.S. Court of Appeals. Among the proceedings instituted at the time was the case of the owners of the *Grandcamp* for exoneration of, or limitation of, liability. The District Court eventually ruled that the owners could neither be granted exoneration from liability, or be allowed to limit their liability, on the grounds that the vessel was unseaworthy because she was improperly manned and improperly stowed and that this was within the privity and knowledge of the owners. The background of this decision was that the master, in failing to prevent smoking in the presence of the particular cargo being loaded, fertiliser grade ammonium nitrate (FGAN), he could, and reasonably should, have foreseen and anticipated the danger of a disastrous fire, with the possibility of explosion. The master's negligence in this regard constituted a proximate cause of the fire and the resultant explosion. Emphasis must be laid on the latter word because, while the fire might be seen as a foreseeable consequence of the failure to prevent smoking, the explosion was wholly unprecedented, there having been no other known cases of this commodity exploding during transit; and further in the field of science, as well as industry, surprise was expressed at the devastating effect of the explosion that followed the fire.

Unforeseen

IT SEEMS that the appeal largely turned on what the master should have foreseen as the result of his negligence. In this connection, the owners submitted that it would indeed be ironic if the United States were permitted to impose liability for the claims in respect of personal injury, and death and destruction of property, by claiming that, unlike the officials and employees of the United States, the officials and employees of the owners, and the master of the vessel, should have known that FGAN was a dangerous explosive and that an explosion from fire should have been reasonably anticipated. The whole of the evidence in the Courts compelled the view that this was a material that could be safely handled in the manner in which it was being handled in this case. The Court found that the explosion, as distinct from the fire, could not reasonably have been foreseen and the owners were granted exoneration from liability. This is a clear pointer to the need for potential litigants to consider very carefully the question of the *causa proxima* in connection with claims for cargo damage, demurrage and a host of other matters.

Three American cargo liners of novel design are described on a later page, and one of them, the "Del Oro", is illustrated below. Features of the design include centre and side hatches giving an "open ship" construction, bridge right forward. deck cranes and Stulcken heavy lift derrick

ON THE "BALTIC"

LARGER SHIPS FOR U.K. TRADE

By BALTRADER

Several of the modern ships recently involved in collision in fog in the English Channel bore names which are familiar to those of us who work the freight markets. It is a reminder that even in these days of advanced navigational aids the safe movement of valuable ships about the world depends in no small degree upon the skill and alertness of shipmasters and their officers. For days, and sometimes weeks, on end there is little or nothing to disturb the quiet and often monotonous routine of regular watchkeeping; and then suddenly, with a minimum of warning, an emergency breaks and the safety of crew, ship and cargo depends upon the quick thinking of the man on the bridge.

Perhaps the most interesting feature of the Eastern markets lately has been the revival of grain chartering activity from Australia, and it has been noticeable that many of the ships involved have been in the 12/14,000 tons size bracket. Of course vessels of this size have always been workable from Australia to such destinations as Italy and Antwerp/Hamburg Range, but U.K. receivers have tended to favour ships not exceeding "10,000 tons 10 per cent more or less" capacity. In the last year or so, however, the U.K. buyers appear to have become increasingly aware of the advantages of larger sizes, although they usually stipulate that the vessel's arrival draught shall not exceed 29ft. Charterers benefit from the fact that the big ships are prepared to accept a 2s 6d reduction as compared with 10,000-tonners and, to allow receivers more flexibility, the larger vessels are normally required to give the option of three U.K. ports of discharge instead of the customary two. From a practical operating point of view the Australia/U.K. voyage must be ideal for the big modern ships mentioned, but it is no doubt a disappointing trend for those owners of handier size vessels which previously had a virtual monopoly in this particular trade. It is not unusual for charterers on the Australian market to fix well ahead and there is, therefore, nothing surprising about the fact that many recent grain fixtures were for December/January and even January/February loading. It is interesting to note, however, that steady rates have been paid for all positions and this does suggest that the owners of many of these big ships in the East see little immediate prospect of improvement and are content to accept current levels for forward loading.

Pacific Coast Grain

It is unusual in summer to see any fixing of grain ships from British Columbia to the U.K., for plentiful grain supplies are available from Eastern Canada, but as the winter approaches the merchants usually show more interest in selling Pacific Coast cargoes. Consequently it came as no great surprise to the market recently to see a number of ships fixed in this trade for November/December loading. The rates varied considerably, depending upon the U.K. ports of discharge, but in at least one case there was a substantial reduction because the charterers concerned agreed 3,000 tons per day free discharge instead of the more usual 1,000 tons gross. Business of this type is useful for owners, for it does offer them another way of getting out of the Far East, always a difficult problem these days when so much employment from the North Pacific and other areas leads back to Japan.

In view of the continued congestion in Japan it is interesting to see that certain lumber business to that country from the North Pacific is being quoted with "custom of port" discharge instead of the more usual "days purposes." Knowing Japan's dismal discharging record in recent months and the difficulty in any case of proving that a ship's turnround, however slow, is anything other than "in accordance with the custom of the port" it seems at first sight unlikely that an owner would agree such terms. In fact, however, business has been done on this basis recently, and it seems that in spite of the known risks the owners concerned have received such a big premium that the gamble was considered worth taking.

The Freight Markets

There was a fair volume of chartering on the freight markets last week with rates showing little change. In the trans-Atlantic trades several ships were fixed from the St Lawrence including *Corcovado* with heavy grain to Glasgow or Greenock at 51s 3d, October 28/November 10, and the 23,000-tons tanker *Bolette* was fixed with a similar cargo from the same loading area to Antwerp, Rotterdam or Amsterdam at $89,000 f.i.o., October 14/25. A normal dry-cargo vessel the *Londoner* was fixed with heavy grain from the St Lawrence to Emden/Hamburg range at $6.40 gross discharge, October 18/30. From the U.S. Gulf, the *Irish Sycamore* takes heavy grain to Emden/Hamburg range at $7.50 gross discharge, October 25/November 9, and another vessel was fixed with a similar cargo from the U.S. Gulf to Denmark at $7.75 free discharge, November 25/December 20. Tanker fixtures included the 17,000-tons *Atlantic Baroness* with heavy grain from the U.S. Gulf to Antwerp, Rotterdam or Amsterdam at $5 f.i.o., November 15/30, and the *North Prince*, a ship of similar size, for a cargo of heavy grain from the U.S. Gulf to Genoa at $6.25 f.i.o., November 10/27.

In the Hampton Roads coal trades a Dutch vessel was fixed to Osaka at $9.40 free discharge with days purposes, December 1/31, and the *Boccadasse* was fixed with a similar cargo from the same loading area to Cork at $5.30 free discharge, October 6/14. There was no change in rates paid for scrap to Japan and fixtures included a Liberty size vessel for October at $140,000 f.i.o. Fixtures from South Africa included *Cruzeiro do Sul* with bulk maize from Cape Town to three ports Moji/Yokohama range at 71s free discharge, November 20/December 9. Also *Novia* with kaffir corn from Durban to Avonmouth or London at 63s, 66s 6d both ports, option Avonmouth and Belfast at 65s 6d, November 10/30. An interesting fixture was that of the 16,000-tons *Aralizz* with pig iron from Durban to Tokyo Bay at 64s f.i.o., November 11/December 2.

There was further chartering activity from Australia and fixtures included *Hoperidge* with bulk wheat ex silo from West Australia to the U.K. at 77s 6d, option London at 75s, Antwerp/Hamburg range at 72s 6d, option loading Eastern States at 10s per ton extra, November 25/December 31, and the *Fotini* with bulk barley ex bags from South Australia to the U.S. Gulf at $11.70 free discharge, option North of Hatteras but not north of New York at $12.30, October 20/30.

Timecharter fixtures included *Restormel* (ms), 10,050 dwt, 493,920 cu ft bale, 11 knots on 8 tons diesel oil plus 1½ tons fuel oil, delivery Kiel October 6/31, for the trip out to China at 25s per ton.

NEWS FROM OVERSEAS

From THE SHIPPING WORLD'S Own Correspondents

Building Spread Over Three Years

SOMETHING NEW in ship construction is being developed within the Aker concern, which includes Tangen Verft and Stord Verft. At the latter a large expansion programme has been started, and the building dock in which several vessels of 33,000 dwt have already been built will now be extended to take vessels of up to 150,000 dwt, as the length of the dock will be increased to 300m and the width to 50m. This expansion is to be completed in March 1962. Then a large tanker can be built at the outer end of the dock while the stern part of another large tanker is built at the other end. It is planned to achieve a capacity of two 68,000-tonners a year in this way. In connection with this programme more equipment will be needed, and two large cranes to serve the building dock have already been ordered. The programme also involves changes at Tangen Verft, Kragero. This yard will in future build the centre tanks only for the hulls of vessels, and these will be completed by Stord. As before, these hulls will be fitted out by Akers in Oslo. Tangen Verft will first build the centre tanks for a vessel of 42,000 dwt and for two of 68,000 dwt. It is through this division of work that Stord Verft will reach a capacity of 68,000-tonners a year. The specialisation of Tangen Verft arises out of the increasing demand for large tankers: it is cheaper to build the hulls at two yards than to expand both to accommodate these large vessels. The centre tanks will be taken in tow to Stord, which is about 280 nautical miles to the west.

Norwegian Orders

NORWEGIAN owners continue to order vessels in Spain. Since the first order was placed there last spring, altogether 30 orders have been placed at three Spanish yards. Euskalduna at Bilbao have the largest number. Altogether 18 vessels are to be built there. They will be of three different sizes: viz: nine shelterdeckers of 1,030 dwt as open and 1,930 dwt as closed shelterdeckers, seven 4,000-tons singledeckers and two 5,400-tons ships. Ten of the 18 vessels are to be delivered in 1962, and eight in 1963. At Astilleros y Talleres del Noroeste SA, El Ferrol, Fred Olsen & Co, Oslo, have ordered three cargo vessels each of 610 dwt to be specially fitted to take ferrosilicon in bulk. These vessels are to be used for the company's liner service between east Norway and the Rhine ports. At the third yard, Empresa Nacional Elcano, Seville, three cargo liners of 2,350 dwt have been ordered for delivery in the middle of 1963. In addition, several more vessels have been ordered, but details are not available as the orders are still being negotiated. The size of these latter vessels is about 4,000 dwt.

Bergens Mek. Verksteder recently signed contracts for building of three sister ships of 28,000 dwt, all bulk carriers. The first one, Yard No 444, has been ordered by Anders Wilhelmsen, Oslo, and is to be delivered in June 1963. The second one, No 446, will be built to the order of Brodrene Jakobsens Rederi, Tromso, and is to be delivered in November 1963, while the third one, No 448, has been ordered by Jacob Sannes & Co, Bodo, and will be delivered in March 1964. The yard has so far not built larger vessels than 23,000-tonners and the above new orders will be the largest vessels to be constructed by the yard. Arnt J. Morland, Arendal, has ordered a tanker of 55,800 dwt from Eriksberg Mek. Verksted, Gothenburg, for delivery at the beginning of 1964.

Further Amalgamation in Norwegian Shipbuilding

AS REPORTED in THE SHIPPING WORLD recently, Moss Værft & Dokk may soon be part of a large concern, A/S Kværner Brug, Oslo, a firm whose main output is large turbines for hydro-electric power plants. This concern has already several other subsidiaries, among them Thunes Verksted, also in Oslo, which is mainly involved in the making of railway locomotives and to some extent also with the production of washing machines. The Moss yard will continue its present occupation of building ships and the yard has orders to keep it busy until October 1963. However, its incorporation into a large concern is considered profitable from all points of view.

In order to be able to meet the demand for the many "paragraph ships", vessels of 299 grt and 500 dwt, Boat Service Ltd A/S, Oslo, and A/S Westermoen Batbyggeri & Mek. Verksted, Mandal, have entered into a close cooperation with P. Hoivolds Mek. Verksted, Kristiansand. It is the Mandal yard which has specialised in these kind of vessels, and it has already placed its first order for such a vessel at the Kristiansand yard, a vessel of 299 grt being built to the order of Paul Wilson, Bergen, and specially fitted for trade on the Rhine ports. She, like the vessels being built for Fred Olsen & Co in Spain, will be fitted to carry ferrosilicon in bulk. The

The Italian Cogedar Line have started a regular passenger service between U.K.-Middle East-Australia using the "Aurelia". This vessel is seen leaving Southampton on her first voyage in this service. The "Aurelia" was built in 1939 as the "Huascaran" for the Hamburg-Amerika Line. Taken over as a prize in 1945, she was renamed "Beaverbrae" and used for the transport of migrants between Europe and Canada. She was sold in 1954 to her present owners, who drastically altered the ship to accommodate 1,126 passengers. Since then she has had further alterations including the removal of her foremast and derrick posts, and the extension of the boat deck aft

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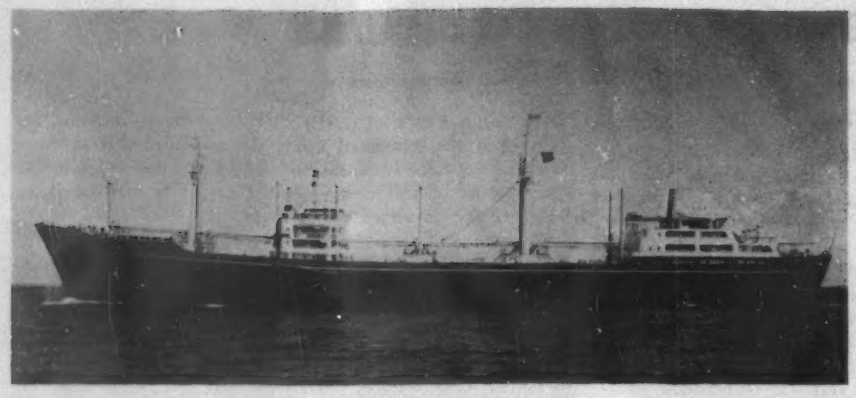

LATEST EAST-ASIATIC LINER

The cargo liner "Boribana", 10,200 dwt, has been delivered to the East-Asiatic Co Ltd, of Copenhagen, by Burmeister & Wain's shipyard. She is the fourth vessel in a series of engines-aft cargo liners from this yard for East-Asiatic, the others being "Bogota", "Beira" and "Basra". The "Boribana" has a length bp of 456ft, breadth moulded 63ft 6in, depth moulded 38ft 3in and a draught of 27ft 6in. The main engine consists of an eight-cylinder B & W diesel, type 74-VTBF-160, designed to have a maximum output of about 10,000 bhp at 115 rpm

Mandal yard has already delivered several similar vessels to the Bergen owners.

A new development is envisaged at Tangen Verft, Kragero. This yard is a member of the Aker group and while it has hitherto built hulls of tankers up to about 19,000 dwt, it will in future build hull sections for tankers only. These sections will then be taken in tow to Stord Verft, another member of the group.

Japanese Orders

RECENT Japanese orders reported included one placed by the Sanko Steamship Co with Ishikawajima-Harima Heavy Industries for the construction of a 33,000-dwt motor tanker. The keel of the vessel was to be laid late in September and delivery is for late in June, 1962. The price was given as Yen 1,580 mn (about £1,580,000 sterling), with 40 per cent payable in annual instalments over six years. A 10-year initial charter for the vessel has been negotiated with the Maruzen Oil Co. The tanker will have an Ishikawajima-Harima-Sulzer diesel main engine of 16,000 bhp and of the 8RD90 type. It will be the second big tanker to be built for the company, formerly a tramp operator. The first was the 47,250-dwt *Toko Maru*, delivered in August.

Ishikawajima-Harima Heavy Industries also secured one of two orders for 47,600-dwt coal and ore carriers placed by Oswego Ocean Carriers, of Liberia. The other order went to Mitsubishi Heavy Industries, Reorganised. The contract terms of $133 per dwt with 70 per cent payable in annual instalments over 7 years were the same for each of the two vessels. They will have turbine main engines of 18,000 shp and a speed of 17.2 knots.

Tanker Conversions

THE Nitto Shosen K.K. has disclosed plans to convert four tankers of the 20,000-dwt class to 23,000-dwt coal carriers for the Australia-Japan service. Work on the first is due to be completed by April 1962, and the rest by March 1963. Charters for two have been arranged with the Yawata Iron & Steel and Kawasaki Steel companies. The announcement drew attention to the difficulties faced by owners in fixing charters for such tankers now that more and more tankers of large and modern type are coming into service. An unofficial survey showed that the Japanese tanker fleet includes 78 vessels of the 20,000-dwt class, and their disposal is a major problem.

Indian Shipyards

THERE is no proposal to convert the Hindustan Shipyard at Vishakapatnam into a corporation. This was stated by Mr. Raj Bahadur, Minister of State for Transport and Communications, Government of India, in the Lok Sabha, New Delhi. He said that the Government had purchased the majority shares of the shipyard recently, having paid Rs8,038,000 for shares of the face value of Rs10,425,000. No immediate changes were contemplated in the shipbuilding plans of the Hindustan Shipyard. The fact that the Government had acquired the majority shares would not make any difference to those plans. Asked whether the prices of ships manufactured at the yard would be reduced as a result of Government participation in the Hindustan Shipyard, Mr Raj Bahadur said that there was no possibility of it as long as the present dependence on imports for certain machinery continued. The prices could come down only when an indigenous industry was set up to produce diesel engines, marine engines and other accessories required for building ships.

The question of obtaining foreign technical and financial collaboration for the second shipyard project in India at Cochin as also the appointment of technical consultants is receiving the active attention of the Government, according to Mr Raj Bahadur. Regarding the progress made in the construction of the shipyard, Mr Raj Bahadur said that the Government of Kerala had agreed to provide 36 acres of Government land free of cost. Of the 64 acres of private land, about 20 acres had been acquired and the balance was being acquired expeditiously. He said that a sum of Rs2,052,000 was spent during the Second Five-Year Plan period. The project, which was estimated to cost Rs205 mn, had been included in the list of industrial projects in the Third Plan. A provision of Rs6,000,000 had been made for expenditure during the current financial year.

In Brief

OUTSIDERS are reported to be trying to capitalise on the widespread increases in freight rates for trans-Pacific Services. They are particularly active on Japan-North America routes, and 12 outsider vessels are due to leave Japan in October—seven on the New York route and five for Pacific Coast ports. This is double the average monthly sailings. The Far East Conference and the Pacific Westbound Conference have both announced increases in their freight rates of 9 per cent and 10 per cent respectively, with effect from 1 January 1962.

AT THE END of July, Japanese shipyards had on order or under construction 478 steel vessels of 100 grt or over totalling 2,458,420 grt, according to a survey by the Japanese classification agency, Nippon Kaiji Kyokai. This included 67 export vessels totalling 1,567,950 grt. Vessels of 25,000 grt or over numbered 36 totalling 1,163,420 grt, and vessels in the 10,000 grt to 25,000 grt range numbered 50 totalling 830,530 grt.

BRITISH LINERS are playing a leading part in the expanding Pacific passenger trade. Arrivals scheduled in Japan during the autumn season include the *Orcades* with 800 passengers, the *Himalaya* with 1,200 passengers, the *Oronsay* with 1,100 passengers and the *Kuala Lumpur* with 160 passengers. The latter was formerly the troop transport *Dilwara*.

Sydney Harbour painted for Shell by Australian Artist Louis James.

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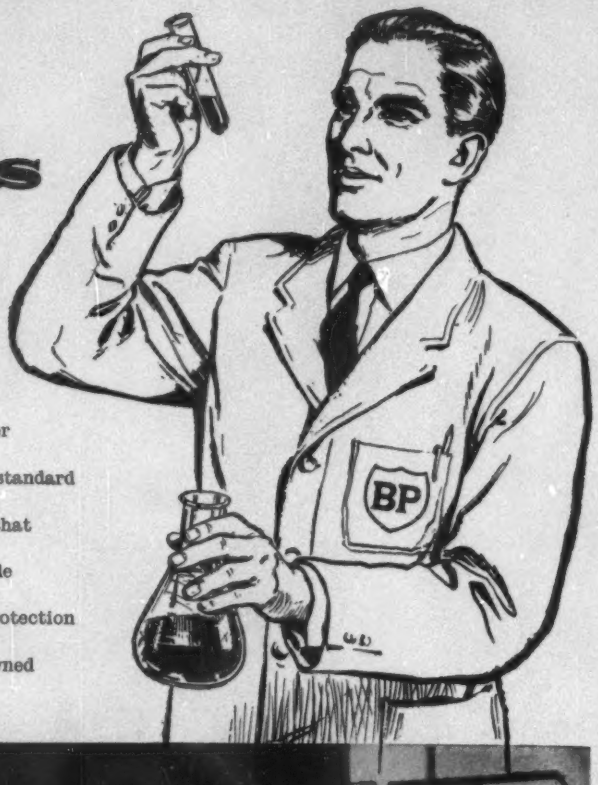

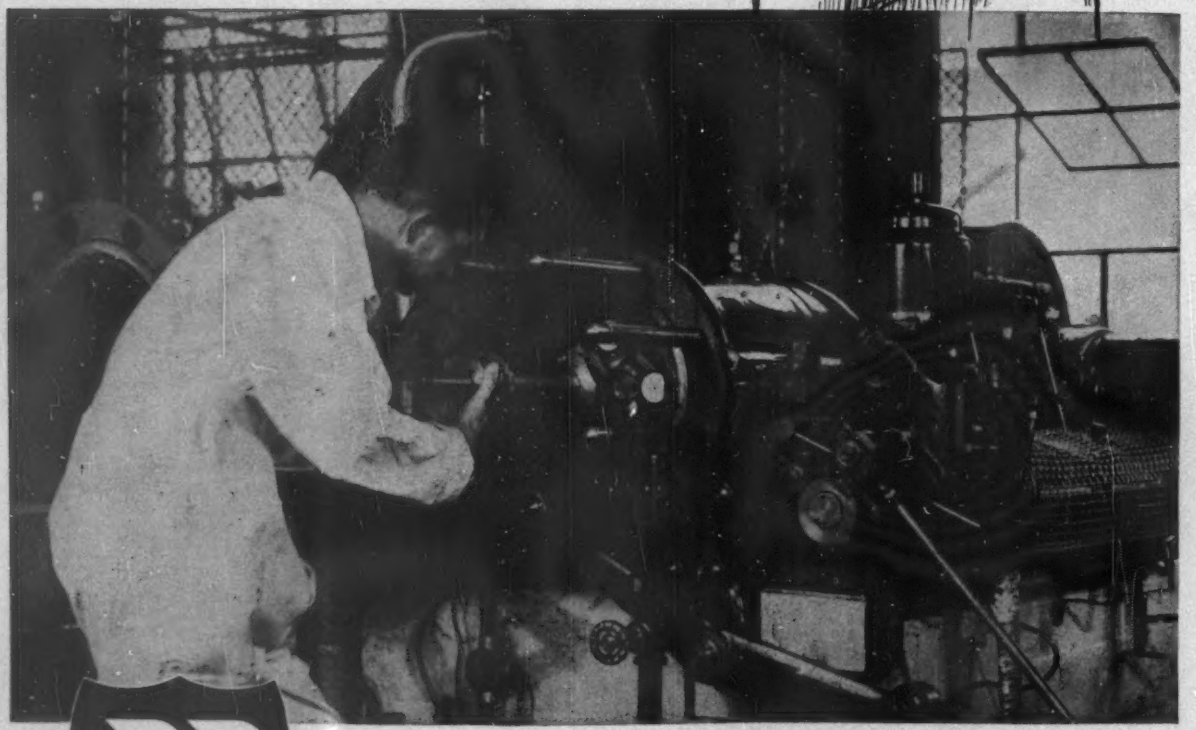

A BP Technician checking cylinder bore after a test run on BP Energol Lubricants.

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North Atlantic Fares Structure

ADVANTAGES OF DUAL PURPOSE CARGO/PASSENGER AIRCRAFT

By D. M. Brace

With little over three months of the year to go, there can be little doubt that North Atlantic passenger figures—both by sea and air—will be considerably below expectations. Though the airlines have registered increases in the numbers carried, the final figure is likely to be well below the anticipations at the beginning of the year. And for the shipping companies 1961 will probably go on record as one of their worst years. Up to the middle of August the total number of passengers to cross the North Atlantic by sea in the period January to mid-August was below 500,000, so it seems unlikely that the 1960 total of 866,500 will be matched.

Already the major shipping companies have given indications of their unrest over the present situation. They have spoken of amending the fares structure in order to encourage more people to travel, and for the first time this winter a special off-season excursion fare (similar to that introduced last winter by the airlines) is to be brought into operation. Then, too, there have been announcements of retrenchment and consolidation on a narrower front by some of the major companies. Cunard, for instance, have sold the *Media* and *Parthia*, while the Furness Withy group is to operate the 160-berth *Newfoundland* class ships as 12-passenger carriers in the winter season, with their future next summer uncertain. It seems possible that there will have to be further reductions if the shipping companies are to maintain their services on a profitable basis. On present indications it seems that they will be lucky if this year they top the 800,000 mark in the numbers carried. Yet it was only four years ago —in 1957—that the ships carried across the Atlantic more passengers than the aircraft did. But in every year since, the shipping companies have reported reduced carryings, while the airlines have annually increased their traffic, and this year may be close to the 2 million mark.

Too Much Capacity

On the other hand, it is an unarguable fact that the airlines have put far too much capacity on the North Atlantic route, with the result that many of the very expensive jet airliners are making the crossing with less than 50 per cent of the seats occupied. There have of course, been a number of factors which have contributed to the present depression—the unsettled political situation in Europe, with an associated reluctance by many Americans to take a holiday in Europe; a small, but nevertheless important trade recession in the United States—these, and a number of other reasons have all helped to reduce the numbers travelling. But it must be remembered that while the airline carryings have been below the expected level they have been in excess of last year's figures.

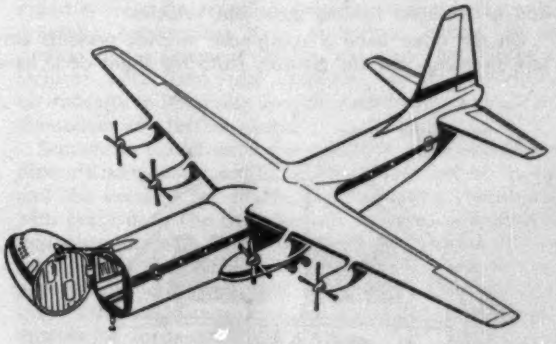
In spite of the vast numbers already travelling across the North Atlantic by air, the airlines and the aircraft manufacturers are constantly considering ways of increasing their traffic. It seems obvious that there is bound to be an intensive sales drive in the years which lie immediately ahead to move greater tonnages of cargo by air, and specially designed aircraft are now being developed for this traffic. Some of these machines will have the dual ability to carry considerable amounts of cargo as well as passengers at very low fares.

Some months ago Seaboard World Airlines (formerly Seaboard & Western Airlines) applied for permission to carry passengers across the Atlantic at a fare of £45 single. Their plan was to carry passengers as fill-up loads on their new swing-tail CL-44 cargo aircraft. Passengers' names would be placed on a waiting list and would be called forward when it was decided how much of the aircraft's capacity remained unfilled. In this way no firm bookings for a particular day would be taken; one day the aircraft might have room for eight passengers, while on another there would be unfilled capacity sufficient to allow 40 or more passengers to be carried. This plan has so far been hotly contested by the other major carriers on the Atlantic route, mainly on the basis that Seaboard have been licensed to operate solely as cargo carriers, and that by allowing them to carry passengers would divert traffic from the established carriers.

But what if an airline such as BOAC bought an aircraft that had the ability to carry large amounts of cargo as well as passengers? (It must, of course, not be forgotten that the present jet airliners are capable of handling quite large cargo consignments in their under-floor cargo holds. In fact quite considerable tonnages are moving annually in these holds, but it is unlikely that the air cargo market will make a big impact until special all-cargo aircraft are in operation in considerable numbers.)

Typical of the aircraft that BOAC may eventually have to buy if cargo traffic expands at the anticipated rate is the Short Belfast, a big aircraft powered by four Rolls-Royce Tyne turbo-prop engines. The Belfast was originally designed to meet a requirement by the Royal Air Force for a tactical freighter to take the place of the ageing Beverley. In this form it has a ramp for rear loading of cargo.

A few months ago a new swing-nose two-deck version of the Belfast, intended for civil operation, was announced. With both decks devoted to palletised cargo this version



This drawing of the civil version of the Belfast shows the nose swung into the loading position

of the Belfast will be able to carry a maximum payload of 100,000 lb. With a passenger layout on the upper deck it could accommodate 141 passengers, and still carry 60,000 lb of cargo on the lower deck. Its manufacturers estimate that with a *full* passenger complement on the upper deck and a *full* 60,000 lb of cargo on the lower deck the Belfast would be able to offer a one-way

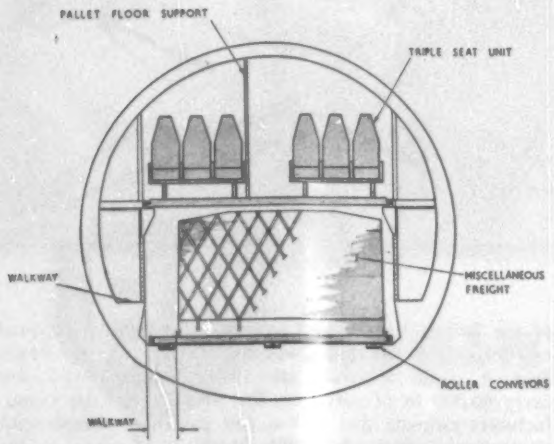
fare of £30 for an Atlantic crossing. Obviously no airline would ever budget on 100 per cent load factors—be they passengers or cargo—so the figure of £30 must be taken with a grain of salt. If, however, one takes a more realistic figure of 50 per cent loads—in point of fact, most airlines average about a 60 per cent load factor—and then subtract those charges, such as maintenance, fuel, crew wages etc, which have to be paid whatever the load factor—it seems likely that the Belfast would be capable of offering a fare in the region of £45 and still show a profit for its operators. This, in turn, could probably be offered as a return fare of about £80.

If people are to be expected to travel at a slower speed than in the big jets then they must be offered some inducement for the slower journey. The present winter 17-days excursion return fare for flights between New York and London by propeller-driven aircraft (such as the Britannia) is £114—but this is only a special winter offer in order to try and boost traffic during the "trough" months. The standard fare is over £160. If, then, it were found possible to offer an all-the-year-round fare of something in the region of £80 the airlines would surely tap a new market, particularly during the summer months.

Shorts say the design of the swing-nose version of the Belfast has resulted from "intensive studies of commercial operational problems, including discussions with all the major civil freight operators". As the result of these discussions two basic requirements became obvious. First, the carriage of passengers and cargo together in one aircraft must be catered for; secondly, while containers or palletised loads were the best approach for cargo carrying, the loads must not be too high if they were to be easily manageable at freight terminals—a height of 6ft being considered the maximum.

Both factors indicated the provision of a two-deck transport with ready, unobstructed access to both loading levels. Since provision for the installation of a second floor had been incorporated in the original Belfast design, this aspect presented no problems, and as a means of access it was decided to hinge the nose of the aircraft to swing through 95 deg, leaving both decks completely open at the forward end for loading and unloading. This was considered to be the ideal solution for a civil transport, rather than the tail-loading methods adopted for the military Belfast to enable it to carry out supply dropping and to facilitate loading guns and vehicles.

On the other hand a swing-nose aircraft presents certain problems, for the controls from the flight deck have to be so designed that they bridge the gap. Nowadays this does not, of course, present major difficulties for, with the adoption of electro-hydraulics, all that is needed is a junction box on the rearward edge of the nose which, when the nose is closed, mates with a similar box on the main aircraft fuselage.



Section through the Belfast's fuselage

The main or lower floor of the civil Belfast will be of light construction and will carry four built-in rollerways running fore and aft, on which palletised cargo can be loaded, the pallets being guided by channel members which run the full length of the fuselage. At a height of about 6½ft above the lower floor a 3-ft "ledge" projects from each side of the fuselage. These ledges carry roller-fitted channels into which pallets or cargo cages can be slid to form the second deck.

Special pallets have been designed for use with the aircraft. They are each 11ft 6in wide by 7ft long and carry seat rails. The upper deck pallets have two additional lengths of rail fitted in the centre to provide anchorage for passenger seats. When operating as an upper-deck passenger carrier these pallets have additional supports in the form of vertical struts suspended from the upper fuselage and attached to the pallets in line with the inner seats along one side of the central aisle. This arrangement of vertical struts, which are placed so as to be out of the way of passengers entering and leaving their seats or moving along the aisle, would obviously be unacceptable when the upper deck is being used for cargo. To meet this case the pallets can be fitted fore and aft with detachable tubular beams which plug into the outer seat rails, so providing increased bending strength.

In the cargo role the Belfast would provide a hold with a 12ft square clear opening. The length of the main hold would be 73ft 3in but if the section towards the tail (where the fuselage line is inclined upwards) is included then the total length is 91ft. The net cargo volume of the upper deck would be 5,292 cu ft and that of the lower deck 4,626 cu ft.

Cargo Terminal

It is one of the greatest truisms of air transport that an aeroplane is earning money for its owners only while it is flying. If this is true of a passenger plane then it is even more the case with a cargo aircraft. Time spent on the ground is time wasted. And with this in mind Shorts have designed a cargo terminal so that the Belfast shall become part of an integrated cargo system, and will spend the maximum possible amount of time airborne.

Shorts' design team have produced a layout for a fully automated air cargo terminal which caters for all aspects of cargo operations—including customs, sorting, palletising and loading—from the arrival of the goods by rail or road to their stowage on board the aircraft, and also of course, for the flow of cargo in the opposite direction.

With this arrangement the main work involved in the shipment of goods is carried out before the aircraft arrives and after it leaves, so that the actual time taken to load and unload it is cut to a minimum—a substantial reduction thus being achieved in operating costs. It is estimated that the complete loading and unloading operation—amounting to a total of about 100 short tons—could be carried out in about 30 minutes, which is no more than the time necessary for changing crews and refuelling the aircraft.

It will obviously require a considerable expansion in the amount of cargo moving by air before the large financial outlay for a cargo terminal of this type could be considered. However, the day will undoubtedly come when so much cargo is being flown round the world that such facilities as these will be required.

Air Charter Market

REPERCUSSIONS OF A CHARTER COMPANY FAILURE

By a Special Correspondent

The collapse of Overseas Aviation (C.I.) Ltd. as an effective operating company is about two months past, and most of the company's outstanding commitments have now been accepted by other air carriers; certainly the extreme pressure that was experienced on London's air charter market about the middle of August is no longer with us. What is also certain, however, is that the affair has not been forgotten on the market, where its repercussions are very much in evidence. It should not be thought that the market is jittery: it has been going too many years and has survived too many convulsions to allow itself to be reduced to that state. Nevertheless, neither brokers nor operators have become so dulled to such events as not to be affected in any way or to learn anything from them.

Reaction of most brokers was probably to make a side glance at the list of operators they represent for reassurance before once again facing potential charterers and countering such questions as "are they reliable?" Operators, on the other hand, have been taking a closer look at some of their recent quotations, and a number of them have thought it prudent to raise the general level of their rates a little. It was a contention of Overseas Aviation that one of the reasons for their failure was the acceptance of business at uneconomically low rates, and it is obvious that other carriers do not want to imitate this practice. Competition among charter operators has been keen and some have been tempted to reduce their rates to a dangerous level in order to attract employment: the fate of Overseas Aviation has served as a strong antidote to this self-imposed malnutrition.

Effect on New Operators

Even some of the comparative newcomers to the sphere of charter operations are refusing to be tempted into quoting low "enticement" rates. Autair (Luton) Ltd, formed only last year with a fleet of three DC3s, have, for example, stated that they will not quote anything but realistic and economic rates. One or two operators have become more anxious than most and have quoted rates substantially higher than the general level. These operators might, of course, have been using the opportunity to try and correct firmly what they considered to be a tendency towards an acceptance of a general rate level that was unrewarding to operators.

As to the day-to-day activities on the air side of the Baltic—these had returned to near-normal by the end of August, and this state of normality extended into the first week of September, when a reasonable amount of business was concluded. Inquiries flowed on to the market steadily, and the proportion of fixtures to inquiries was at least acceptable, if not satisfactory. In the Far East section the calculations of operators were upset somewhat by unforeseen developments. A number of carriers had taken advantage of the good number of cargo loads awaiting movement from Europe to various places in the Far East in order to position their aircraft for homeward journeys with ships' crews. Some of these ships' crew loads had been circulating on the market for a few weeks, and no doubt operators thought they would get a reasonable rate for their labours. Unfortunately for the operators, many of the ships' crews that were expected to return about the middle of September were for varying reasons delayed. As a result aircraft were fixed homeward at rates that hardly covered costs, while other uncommitted equipment was left out East in the hope of more rewarding employment.

Although ships' crew work drew most of the attention of the market in the first week of September, the inclusive tours section also saw a fair amount of activity, the greater part of which was concerned with negotiating for movements during the succeeding three or four weekends. Conditions on the market in the following week were by comparison disappointing and dull, with a drop in the flow of fresh inquiries. There was still a certain amount of activity in the inclusive tours section.

Stiffer Position to Far East

Cargo inquiries feature again on the market, with particular demand for movements from Germany to Japan and Korea. Operators, however, were not so ready to accept such employment after the events of the previous week, and at the rates the potential charterers thought reasonable. Charterers on this route had been almost "conditioned" to the low rates that operators had in the past been willing to accept for loads to the East, in order that they could share in the more lucrative homeward loads. About the middle of September, westbound loads became less plentiful and those that were available were often not an economical proposition for operators, who therefore expected to be paid a "full" rate for any eastbound work.

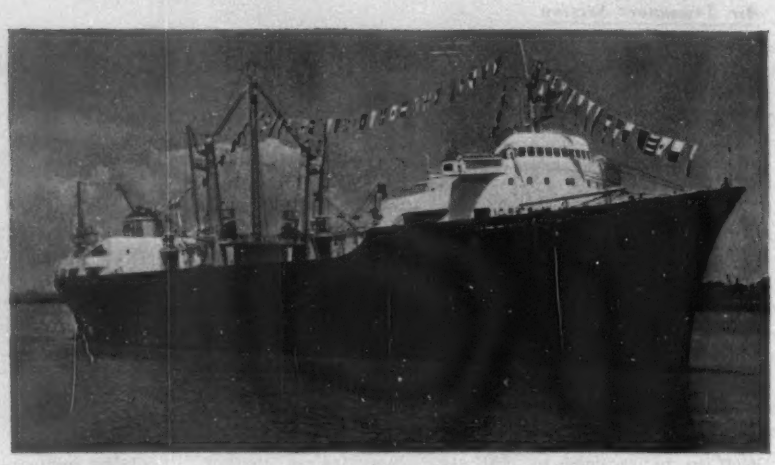
The slack flow of new inquiries on to the market continued into the third week of September. Lambert Brothers Ltd reported at this time that, although a certain amount of long-haul fixtures were concluded, they represented business that had been under negotiation for some weeks. Inquiries for trans-Atlantic movements, in particular for the carriage of tourists during the 1962 summer, activated that market to a degree, and there was also a certain amount of interest aroused by a smattering of fairly prompt ships' crew movements. Most of the ships' crew inquiries were for transfers over the standard routes, but generally negotiations were protracted. Nearly all the cargoes for movement during the first two weeks of October were fixed, and charterers, as they anticipated no difficulty in obtaining aircraft, were reluctant to commit themselves any further ahead.

September closed with the market in an unsettled condition. The summer tourist season was almost at its end, and the demand for flights was fluctuating considerably with every day. The situation was worsened somewhat by tour operators who, understandably, were seeking one-way rates for the final flights of their series. This was during a period when operators, with memories of Overseas Aviation's fate, were trying to raise their rates, resulting in a number of inconsistencies.

Figures issued by the International Air Transport Association of traffic carried by their member airlines across the North Atlantic in 1960 reveal the effect on charter operations of the introduction of the larger and faster jets and the new lower rates on scheduled services. Although the total number of passengers carried on both scheduled and charter flights rose by 24.7 per cent, passengers carried on charter flights dropped by only 7.9 per cent to 158,978. Charter cargo traffic declined by 78 per cent to 789 tonnes, and yet the total amount of cargo transported by air across the North Atlantic rose by 28.7 per cent.

Three New Delta Liners

FAST AMERICAN-BUILT CARGO SHIPS



A SERIES of three fast cargo vessels has been built for the Delta Line of the Mississippi Shipping Company Incorporated, New Orleans. These vessels, the *Del Rio, Del Sol* and *Del Oro,* have been built by Avondale Shipyards Inc, New Orleans, and are the first to be ordered by the Mississippi Shipping Company in its long-range replacement programme, which will total 14 ships at an estimated cost of about $180 million over the next 20 years. Avondale bid $9,591,000 for each of the three ships, without national defence features, on an adjusted price basis. Including defence features the cost of each ship is understood to be $9,802,718.

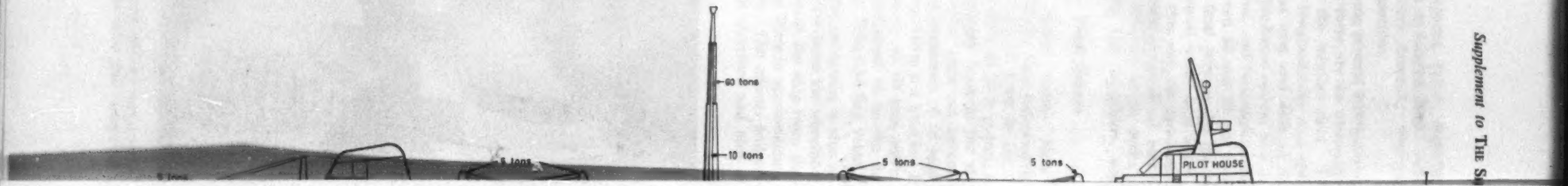
The first of the three ships, the *Del Rio,* was launched sideways into the Mississippi River in July 1960; the last of the series, the *Del Oro,* was delivered last July. The ships, which were designed by the naval architects and marine engineers Friede & Goldman Inc, are of 10,930 dwt and have a speed of 18 knots. Features of interest in these new ships include deck cranes, Stulcken masts and the arrangement of hatches. They are also fitted with 21-ft stainless steel propellers.

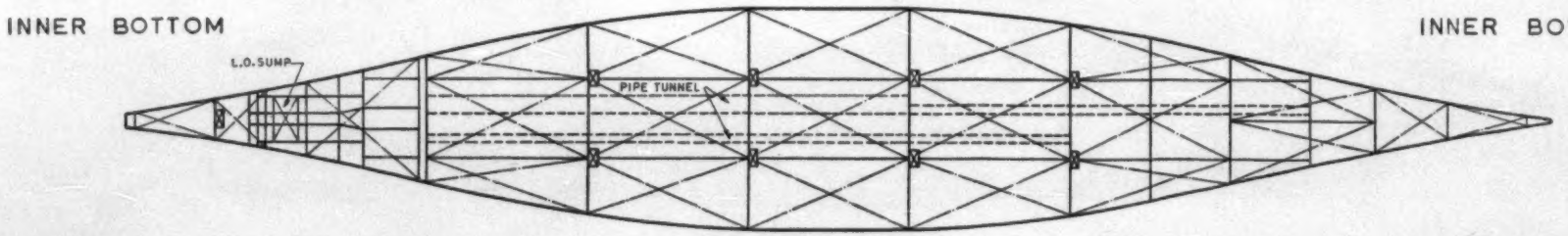
The *Del Rio* and her sister ships have the following particulars:—

Length o.a.	506ft 3in
Length b.p.	482ft
Breadth moulded	70ft
Depth to main deck	45ft
Draught moulded	28ft
Deadweight	10,930 tons
Displacement	16,800 tons
Gross	10,325 tons
Net	7,190 tons
Machinery output (design speed) ...	10,600 shp
Machinery output (max. defence speed)	14,250 shp
Service speed	18 knots
Passengers	12
Cargo capacity:	
Refrigerated	25,000 cu ft
Liquid	1,995 tons
Bale	657,213 cu ft

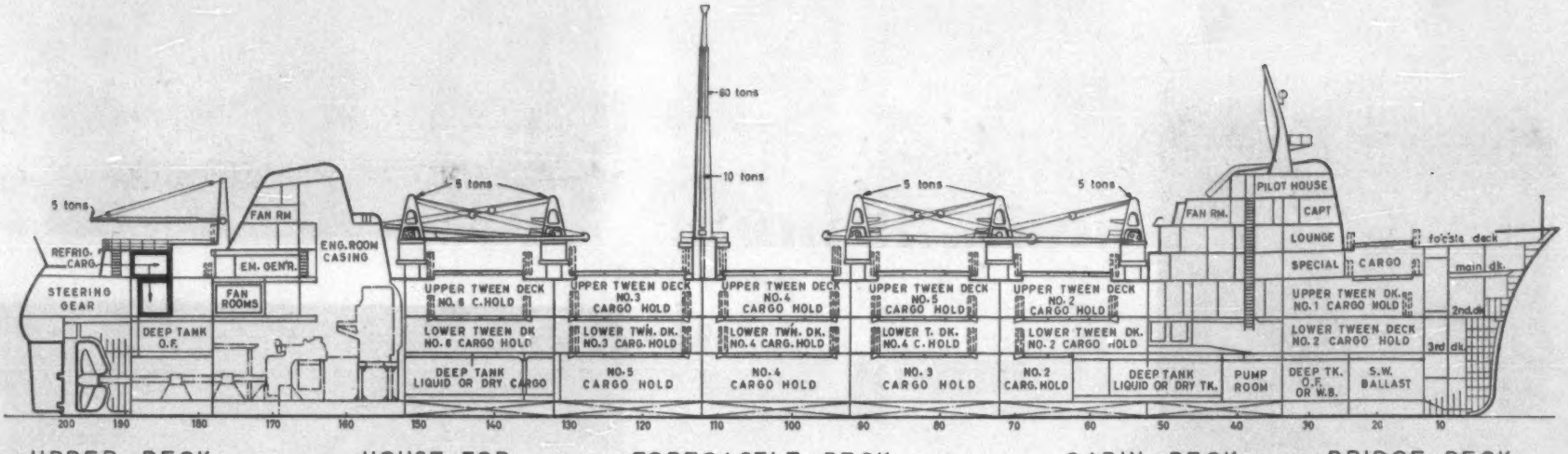
The *Del Oro* was scheduled to call on her maiden voyage at Port Arthur, Freeport and Houston, Texas, as

Deck views showing the 5-tons Colby-Steel deck cranes (above), and (right) the Stulcken heavy-lift derrick

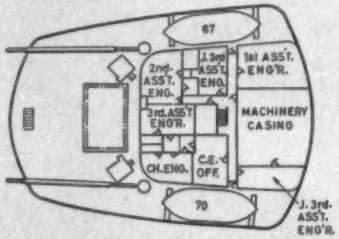




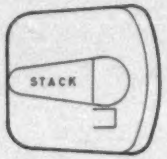
General arrangement of the "Del Rio," "Del Sol" and "Del Oro," 10,930 dwt, built by Avondale Shipyards Inc, New Orleans, for the Mississippi Shipping Co Inc, New Orleans


60 tons
10 tons
5 tons
5 tons
5 tons
5 tons
REFRIG. CARG.
STEERING GEAR
FAN RM
EM. GEN'R.
FAN ROOMS
ENG. ROOM CASING
DEEP TANK O.F.
UPPER TWEEN DECK NO. 6 C. HOLD
LOWER TWEEN DK NO. 6 CARGO HOLD
DEEP TANK LIQUID OR DRY CARGO
UPPER TWEEN DECK NO. 3 CARGO HOLD
LOWER TWN. DK. NO. 3 CARG. HOLD
NO. 5 CARGO HOLD
UPPER TWEEN DECK NO. 4 CARGO HOLD
LOWER TWN. DK. NO. 4 CARG. HOLD
NO. 4 CARGO HOLD
UPPER TWEEN DECK NO. 5 CARGO HOLD
LOWER T. DK. NO. 4 C. HOLD
NO. 3 CARGO HOLD
UPPER TWEEN DECK NO. 2 CARGO HOLD
LOWER TWEEN DK. NO. 2 CARGO HOLD
NO. 2 CARG. HOLD
DEEP TANK LIQUID OR DRY TK.
PUMP ROOM
DEEP TK. O.F. OR W.B.
S.W. BALLAST
FAN RM.
PILOT HOUSE
CAPT
LOUNGE
SPECIAL
CARGO
UPPER TWEEN DK. NO. 1 CARGO HOLD
LOWER TWEEN DECK NO. 2 CARGO HOLD
fo'c'sle deck
main dk.
2nd dk.
3rd dk.
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10

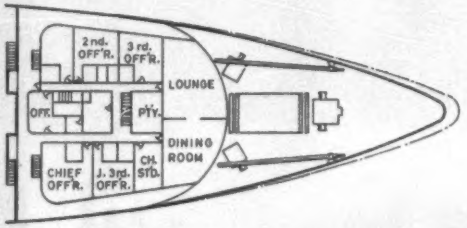
UPPER DECK



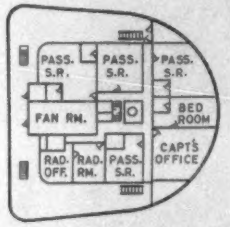
HOUSE TOP



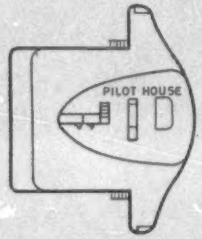
FORECASTLE DECK



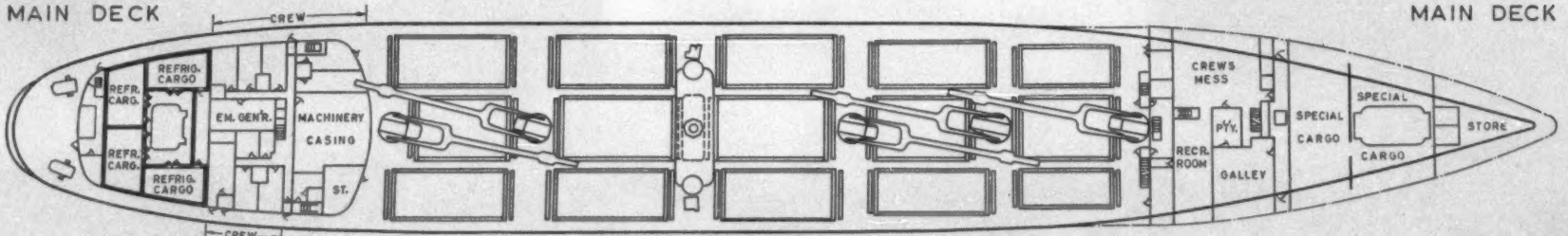
CABIN DECK



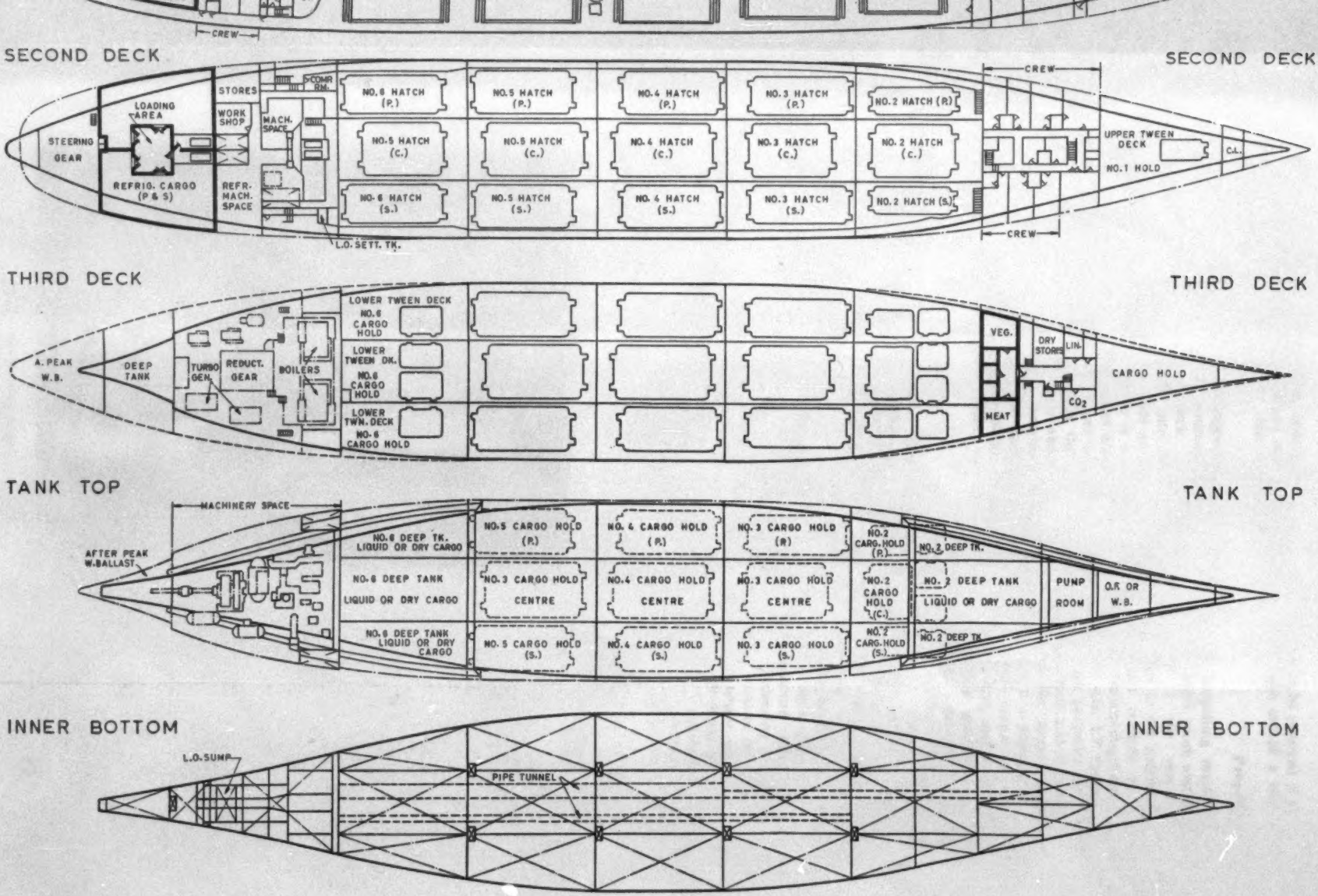
BRIDGE DECK



MAIN DECK



MAIN DECK



General arrangement of the "Del Rio," "Del Sol" and "Del Oro," 10,930 dwt, built by Avondale Shipyards Inc, New Orleans, for the Mississippi Shipping Co Inc, New Orleans

MAIN DECK
FORECASTLE DECK
POOP DECK
BRIDGE DECK
BOAT DECK

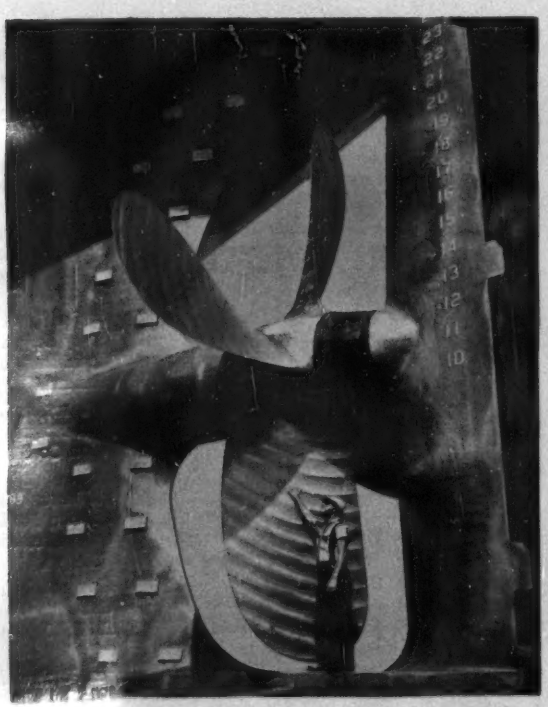
well as Mobile, Alabama, before departing on July 27 from Mobile for Rio de Janeiro, Brazil and other ports on the East Coast of South America. She was due back at New Orleans in September.

On the accompanying general arrangement of these ships it will be noted that there are an unusually large number of hatch covers on the weather deck. This is because the hold is divided longitudinally into three parts, each hatch being nearly as long and wide as the cargo space beneath it. This triple-hatch system is a development of Friede & Goldman Inc, and facilitates access to the cargo holds, enabling between 80 and 90 per cent of the cargo to be stowed in its final position by the cargo handling gear. With conventional holds only about 25 to 30 per cent can be handled this way, the remainder having to be manhandled. The twin longitudinal bulkheads compensate for the loss of structure in the decks, and the cargo spaces are completely free of pillars, web frames and girders.

Deck Cranes

Greer hydraulic hatch covers have been fitted in these ships. The Colby Steel full-revolving 5-tons deck cranes can hoist a load of 3,500 lb for 25ft, swing 90 degrees, luff in from 48-ft to 25-ft radius, lower the load 35ft and return the empty hook to the starting position in 35 seconds. A similar cycle can be completed with a load of 11,200 lb in a maximum of 50 seconds. In addition to the cargo cranes there is a Stulcken heavy-lift mast having a lifting capacity of 60 tons serving Nos 4 and 5 holds. This is understood to be the first of its kind to be installed on an American-flag vessel.

As will be noted the navigating bridge is well forward, giving an all-round view from the wheelhouse and a clear view of the after part of the ship from the bridge wings. Below the wheelhouse there is accommodation for a small number of passengers. The officers and crew are accommodated in this deck structure and also aft. From the photographs received it is clear that the *Del Oro* and her sister ships are of a very neat and workmanlike appearance.



... aft ... meter four-bladed stainless steel propeller. Note how the ... propeller boss enters the rudder post. Each blade is detachable

Propelling Machinery

The propelling machinery is arranged aft in a combined engine room and boiler room. A feature of special interest is the very small space which has been allocated to the machinery installation. The propelling machinery consists of a Westinghouse cross-compound double-reduction-geared steam turbine comprising one HP and one LP turbine incorporating the astern stage. The main propeller thrust bearing is of the pivoted segmented type and is located in a housing on the forward end of the second reduction gear casing. The unit operates at a pressure of 600 lb/sq in at 850 deg F with a normal output of 10,600 shp (11,600 maximum continuous shp), and a maximum Navy rating of 14,250 shp for defence purposes.

Steam is generated in two Babcock & Wilcox inclined-bank two-drum boilers fitted with Diamond steam soot blowers. The superheaters are cleaned by air-motor driven soot blowers. The boilers, designed for a pressure of 750 lb/sq in, normally operate at 646 lb/sq in drum pressure with a temperature of 860 deg F at the superheater outlet. The normal steam flow for each boiler is 41,000 lb/hour.

The ship's electricity supply is obtained from two Westinghouse turbo-generators each of 600 kW output. The condensing equipment, also supplied by Westinghouse, consists of one main condenser and two for the turbo-generator sets. The main condenser has a cooling surface of 9,000 sq ft, with 1,200 sq ft in each of the auxiliary condensers. The propeller is of the four-bladed 21-ft stainless steel built-up type, using the Avondale detachable blade concept developed by the Harvey Division.

The majority of the pumps were supplied by Warren Pumps and include those for bilge and ballast service, main and auxiliary condensate, auxiliary boiler feed, cargo oil, air-conditioning chilled water, main and auxiliary circulating water, and fire and general service duties. All the major electrical components, such as motors, switchgear and control gear, were supplied by the Westinghouse Electric Corporation.

MARCONI APPOINTMENTS

Lord Nelson of Stafford has retired from the board of the Marconi International Marine Communication Co Ltd. He has been succeeded as chairman by Sir Gordon Radley. The Hon George Nelson has relinquished the position of deputy chairman, but remains a member of the board. Mr R. Ferguson will retire from the position of managing director at the end of 1961, but will retain his seat on the board.

Mr D. P. Furneaux, the general manager, has been elected a director and appointed managing director designate. He will take up his duties as managing director on 1 January 1962.

The Hon George Nelson has been appointed chairman of Marconi's Wireless Telegraph Co Ltd. He succeeds Lord goods—who have offered export assistance to non-competing Sir Gordon Radley has been appointed deputy chairman.

The *Export Assistance Register* published by the Institute of Directors' Export Action Now Committee, is compiled from answers to a questionnaire sent to the Institute's 37,000 members asking if their companies needed help to begin selling overseas or, alternatively, were able and prepared to give it. Listed in the register are some 600 companies—manufacturing more than 500 different main categories of goods—who have offered export assistance to non-competing concerns

Oil Topics

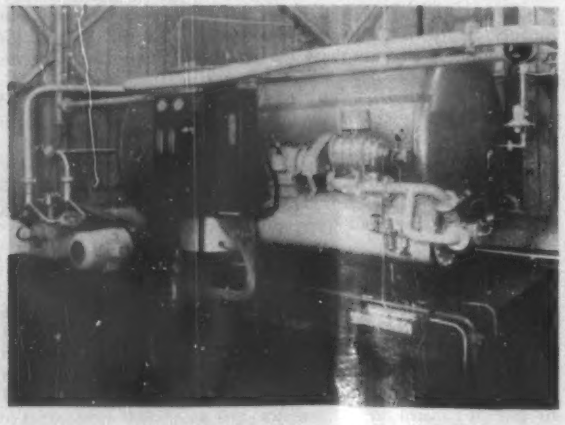
LOWER RATES IN SEPTEMBER

SEPTEMBER was a most disappointing month from the point of view of tanker owners. In their report on chartering during the month, Davies & Newman Ltd comment that normally at this time of the year the first signs of an improved winter demand are apparent, but during last month inquiry for black oil tonnage on single voyage basis steadily declined, and rates consequently weakened over the month. From the Persian Gulf, Japanese charterers closed several vessels, but owners were unable to obtain better than U.S.M.C. minus 70/75 per cent, except for two small vessels which were fixed at U.S.M.C. minus 65 per cent, and an early November tanker which accepted U.S.M.C. minus 67½ per cent. Currently, these charterers have very little definite requirement for further October tonnage. No British majors have taken tonnage from this area, but a few vessels were fixed to U.K. Continent, Mediterranean or Scandinavia, mainly at Scale minus 62½/67½ per cent, although better rates were obtained earlier in the month by one or two owners. Trans-Atlantic black oil carriers were fixed at Scale minus 55/57½ per cent, while Brazilian charterers took seven large vessels for early loading at A.T.R.S. minus 65 per cent. There was sufficient clean demand to take care of all the earlier tankers, and the clean rate showed a definite improvement, particularly for September loading, one vessel securing a trans-Atlantic cargo at the equivalent of Scale minus 15 per cent for American account.

Less Timechartering

THERE was rather less activity in the period market compared with August, but three further fixtures were announced by one London major company, these being a further medium-sized motor vessel for five years from end-1963 at 18s, and two existing 39,000-tons turbine tankers which secured 14s 6d and 15s 4½d respectively, owners in one case having the option of putting in a 40/45,000-tons newbuilding motor vessel at 16s 10½d. Another London major secured a 53,000-tons newbuilding turbine vessel for 10 years' timecharter from end-1963, at 14s 1½d. Apart from these fixtures, Brazilian charterers closed several 30/40,000-tonners for a year's employment with early commencement at rates varying from $1.75 to $1.66. A Japanese major company has fixed, subject to Government approval, a 92,000-tons Norwegian newbuilding for 12 years' consecutive voyages with commencement end-1964, at U.S.M.C. minus 70 per cent. The demand for black oil tonnage in the American coasting trade has remained very moderate, and in view of the poor demand for tonnage to other destinations, rates in the Caribbeans/U.S.N.H. trade have fallen to around A.T.R.S. minus 60/65 per cent.

There has been a further decrease of 19 vessels of about 380,000 dwt in the laid-up fleet, which now stands at 185 vessels totalling 3,050,000 dwt. As a matter of interest, this total of 185 vessels includes 67 T2s and 63 other vessels of less than 16,000 dwt, and only 11 vessels of a deadweight of 28,000 tons or more.



This Holmes oil-fired inert gas generator, which has a capacity of 10,000 cu ft/hr, is used to supply inert gas for the blanketing of storage tanks at the Rock Ferry tanker cleaning berth at Birkenhead

Shorter Notes

THE 1961 EDITION of the *Oil & Petroleum Year Book* has been published. In style and content it follows its predecessors, and remains an invaluable reference book for those concerned with the oil industry. The main part of the book is the register giving details of 1,100 firms involved in oil in one way or another. It is published by Walter E. Skinner at 20 Copthall Avenue, London EC2, at a price of 40s (post free to any part of the world, 43s).

THE London Tanker Brokers' Panel have made further average freight rate assessments. As at 1 October 1961, the weighted average world tanker freights are:

General purpose vessel A.F.R.A. Scale No. 3 minus 6.1 per cent
Large vessel A.F.R.A. ... ... Scale No. 3 minus 14.9 per cent

This indicates increases of 1.4 per cent on the general purpose vessel assessment and 1 per cent on the large vessel assessment made at 1 July 1961, or in terms of a voyage from the Netherlands West Indies to London, rises of 5½d and 4d respectively.

RECENT SHIP SALES

CARGO STEAMER *Lord Tweedsmuir* (ex-*Bedford Queen*, ex-*Tweedsmuir Park*, 7,136 grt, 4,356 nrt, built Sorel, PQ., 1943 by Marine Industries Ltd) sold by Glenrock Shipping Co Ltd (J. P. Hadoulis Ltd), London, to Japanese shipbreakers, for about £21 10s per ton light displacement, with prompt delivery Yawata Roads.

Cargo steamer *Commodore Grant* (ex-*Fort Grant*), 10,384 dwt, 7,131 grt, 4,354 nrt, built Vancouver 1943 by West Coast Shipbuilders Ltd) sold by Northeastern Freighters Ltd (Seafaring Co Ltd), London, to the Montelindo Compania Naviera S.A., Panama, and transferred to the Lebanese flag under the name *Sidon*.

Motor vessel *Stella Maris* (299 grt, 147 nrt, built Niendorf 1958 by Evers-Werft) sold by Franz Hauses, Haren/Ems, to Jopsa S.A., Panama, and renamed *Jopsa*.

Turbine steamer *Samarinda* (ex-*Tufts Victory*, 10,700 dwt, 7,648 grt, 4,350 nrt, built Los Angeles 1945 by the California Shipbuilding Corp) sold by Koninklijke Rotterdamsche Lloyd N.V., to Formosan buyers for £195,000.

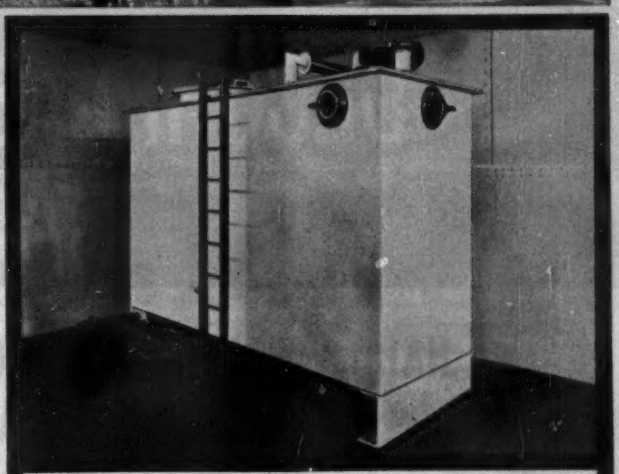
Cargo steamer *Helga* (ex-*Salso*, ex-*Selnes*, ex-*Fossli*, ex-*Kaupanger*, 2,333 dwt, 1,572 grt, 874 nrt, built 1930 by Bergens M.V.) sold by Rederi A/B Hera (Karl Kahre), Mariehamn, to Greek buyers for £27,000 with prompt delivery Finland.

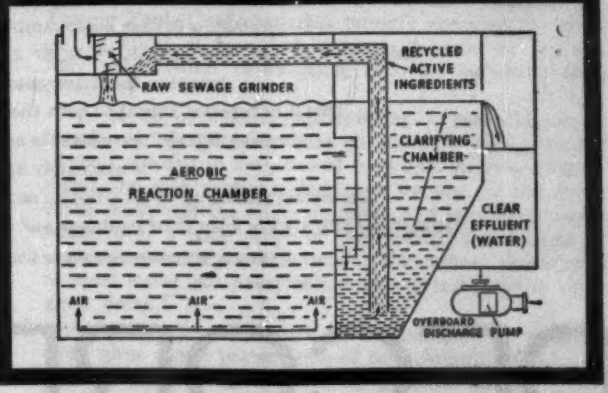
Motor vessel *Lorinna* (1,550 dwt, 1,199 grt, 588 nrt, built 1938 by Grangemouth Dockyard Co Ltd) sold by W. Holyman & Sons, Pty Ltd, Melbourne, to the Isabel Navigation Co S.A., Panama, and renamed *Brenda*.

Motor vessel *Mombasa* (1,364 dwt, 2,213 grt, 1,090 nrt, built 1950 by Henry Robb Ltd) sold by British India Steam Navigation Co Ltd to Pakistani buyers reported to be the Crescent Shipping Lines of Karachi, and being renamed *Kareem*.

Cargo steamer *Rhuys* (4,750 dwt, 3,577 nrt, 1,844 nrt, built 1947 by Arsenal de Brest) sold by Soc. Nav. Delmas-Vieljeux to Lundquist Rederierna of Mariehamn for £107,500 with delivery at a French port October-November.

Cargo steamer *Milly* (ex-*Loke*, ex-*Claymont*, ex-*Porthcawl*, 4,200 dwt, 2,434 grt, 1,476 nrt, built Stockton 1915 by Craig Taylor & Co Ltd) sold by Capt H. Ph. M. Krapp, Stockholm (Liberian flag), to other Liberian flag operators for £36,000 with delivery Sardinia October.





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British Shipbuilding Research

BSRA'S WORK FOR SCIENTIFIC SHIPBUILDING

THE ACTIVITIES of the British Shipbuilding Research Association in securing for the industry the foremost place in scientific shipbuilding were outlined by Sir James Milne, chairman of the Council, at an extraordinary general meeting of the Association on October 5.

A year ago he had reminded members that although expenditure had risen to £330,000 in the year to 31 March 1960, a further expansion would occur. The audited accounts issued recently showed actual expenditure amounting to £415,635. The estimates for the current year provided for further expansion and they expected to spend nearly £550,000, with a heavy increase in extra-mural research. They had included in these estimates a figure of £25,000 for production research, which represented a satisfactory start to their work in that field.

Speaking of the decision taken by the industry to set up an organisation for production research, Sir James declared that BSRA were to recruit and appoint the permanent staff required for the work. Good progress had been made in that direction. Mr P. G. Hodgkinson had been recruited from the aircraft industry to take charge of the new section. He had visited shipyards in this country and abroad, and good contacts had been established with various manufacturers of plant and equipment. Other staff for the section had also been recruited and it at present consisted of four men, but further appointments were required both of men with shipyard experience and others with experience in production engineering. It was hoped that a research programme for the section would be produced by the end of the year, although a start had been made in anticipation of an approved programme.

"Last year," added Sir James, "I also mentioned developments within BSRA in connection with possible computer applications to shipbuilding problems. I told members we were to support the initiative that had stemmed from the district associations by appointing research assistants at both Glasgow University and King's College, Newcastle. These men have since taken up their duties and are assisting member firms in the programming of routine ship design calculations and in the operation of the computers at these two universities.

A New Special Computer Section

"As regards further developments and in particular the problem of expressing a ship's lines mathematically, I stated BSRA were to set up a committee to coordinate various studies proceeding in this country. This committee has been most active and a number of reports have already been issued to the member firms. To assist in the more rapid progressing of this work we decided to set up a special computer section within the Naval Architectural Department. It meant taking men from other work but has, I think, speeded developments.

"Further consideration is now being given as to how best the industry can be assisted in the future and the Research Board have recently discussed whether a central computer service should be established. A decision on this will require to be taken at an early date and we plan further consultations with member firms to ascertain their views and requirements. We have in mind not merely the uses to which computers can at present be put but also their possible future wider applications in the production and control fields. The new production research section will need to be associated with this development."

There were no important developments to report as regards the application of nuclear energy to merchant ship propulsion, largely because the Government has yet to announce its decision on the tenders for a ship that were called for some time ago.

Sir Charles Connell, chairman of the Research Board, said that the various committees had been very active during the past year, and 35 reports on a wide range of subjects had been approved for circulation to member firms. Summarising some of the more important items on which work had been carried out, Sir Charles said that in the field of hydrodynamics the biggest single item on which they were engaged was still the methodical series of resistance and propulsion experiments with ocean-going merchant ship forms. "Most of the basic data for the main series," he said, "have already been issued to member firms, and we are now engaged on the overall analysis and cross-fairing of the results. A set of resistance charts based on the analysis of the LCB (longitudinal centre of buoyancy) variations has already been issued. The new experimental work concerns the extension of the range of block coefficients up to 0.85 and the investigation of bulbous bows and special stern forms. The purpose of the latter is to give more uniform flow conditions for the propeller, and this becomes of particular importance when there are very high powers on a single shaft, as in the case of the large single-screw tankers."

Experiments on Waves and Ship's Motion

A standard code of procedure for bollard trials has been approved by all tug-building member firms. Work has continued on the model experiments to investigate the effect of bow and stern variations on the trawler series forms and four reports on this subject are to be issued to member firms.

A series of experiments with a model of an 18,000-dwt tanker is shortly to be started to investigate the effect on ship resistance of yaw and of the rudder required to counter it. Sir Charles added that "it has been suggested that the fact that the ship is free to yaw and is maintained on course by the use of the rudder, whereas the model is usually constrained by guides, may have an important bearing on the ship model correlation problem. The Resistance Committee of the International Towing Tank Conference has recently appealed for data on the effect of yaw, but as far as I know we are the only organisation investigating this on merchant ship forms.

"A series of experiments covering a range of wave lengths and heights has been carried out with a model of the *Cairndhu* in long-crested head seas. In these experiments the ship motions, degree of wetness on the forecastle deck, and the effect on thrust and rpm were determined over a wide range of ship speeds, and I think it is true to say that the behaviour of a merchant ship model in head waves has never before been investigated in such great detail."

Another report approved for circulation to member firms gives a new presentation of Schlichting's well-known chart for estimating the loss of speed in shallow water and an extension of the range of diagrams to cover the depths found on measured miles round the U.K. At these depths shallow water effects just begin to be felt by some classes of ships but they were not provided for on the original chart.

An investigation is under way into the effect of surging of liquids in tanks on the loading induced on tank boundaries; full-scale tests on this subject have been carried out and model tests are at present in progress. A preliminary analysis of the records indicates that pressure variations on the bulkheads are governed primarily by vertical accelerations due to combined pitch and heave and to a lesser degree by fore and aft acceleration. "In the full-scale tests there was no synchronism between the period of oscillation of the liquid in the tank and the ship's natural period and this possibly accounts for the fact that there was no noticeable increase of pressure due to sloshing. In the model tests we are varying the length of the tank and the depth of the liquid over a wide range to see if synchronism may arise and if so, whether it will have any major effect.

Strain in Passenger Liners

"Strain measurements have been made in the hull and superstructure of a large passenger liner during sea trials and a report on this work is being prepared. The principal aim of the investigation was to determine the structural behaviour of the superstructure which incorporates one expansion joint. Stress measurements were also made in way of the expansion joint, and high stress concentrations were found at the root of the joint. In an attempt to reduce these, the shape of the root on one side was modified and recording strain gauges were fitted to both sides to compare their behaviour in service. The results indicated that the modified shape of the expansion joint root resulted in a 50 per cent lower stress concentration factor, but cracks occurred in both roots after heavy weather. This work forms part of a more general investigation into expansion joints which will include laboratory tests to enable alternative designs to be compared with those already in service."

During the past year the experimental work at the Association's structures laboratory at Glengarnock has again been concerned mainly with tests on panels of plating stiffened by swedges and flat bars and also by inverted angles. These tests form part of a series, the object of which is to compare the load-bearing properties of the three types of stiffening when used for watertight bulkheads or pillar bulkheads, and several progress reports have either been circulated or will shortly be circulated to member firms on this subject; it is expected that the programme as a whole will be completed during the next year.

Experimental investigation into the descent of funnel smoke on decks was completed some time ago and since then the design rules that were formulated have been applied by BSRA to two ships where trouble had been experienced and the results have been completely satisfactory. Experience has shown, however, that a little further wind tunnel work is desirable and this has been put in hand.

Sir Charles said that "the subject of automatic combustion control is very much to the fore at the present time. About ten years ago we issued a report which analysed the general problem and described the systems then available. These systems only provided control under steady steaming conditions due to lack of burners having a sufficiently large turn-down ratio. A further report has recently been approved for issue to member firms in which a fresh assessment of the position is made, and this deals specifically with the possibilities for full-range control under manoeuvring and standby conditions as well as for steady steaming. Such wide range control has not yet been used in British merchant vessels but the time may be approaching when shipowners consider it to be economically desirable".

Experiments on diesel engine cylinder wear during the year have yielded results of considerable practical interest. Careful tests with heavy fuels from three different sources have shown that the conventional fuel-cleaning treatment involving a purifier and a clarifier in series does not give a reduction in cylinder wear in comparison with untreated fuel. Further tests with fuels from other sources are now in progress. The effect of fuel cleaning on the wear of fuel injection equipment is also being investigated, and it is hoped that this work will enable a realistic standard for fuel oil purification to be established.

Work on Turbocharger Efficiency

At its meeting last year the Research Board approved the addition of a new item to the research programme to deal with the improvement of turbocharger efficiency. During the year a detailed programme of work has been agreed between the various interested parties and contracts have been placed.

The experimental examination of the process of heating heavy oil in cargo tanks has been continued, and a second report dealing with the performance of conical heating coils has been approved for issue to member firms. This work is continuing, using a quarter-scale model of a cargo tank and, in addition, facilities for a full-scale test on a tanker are to take place later in the year. The main object of this will be to determine the magnitude of the heat losses under service conditions.

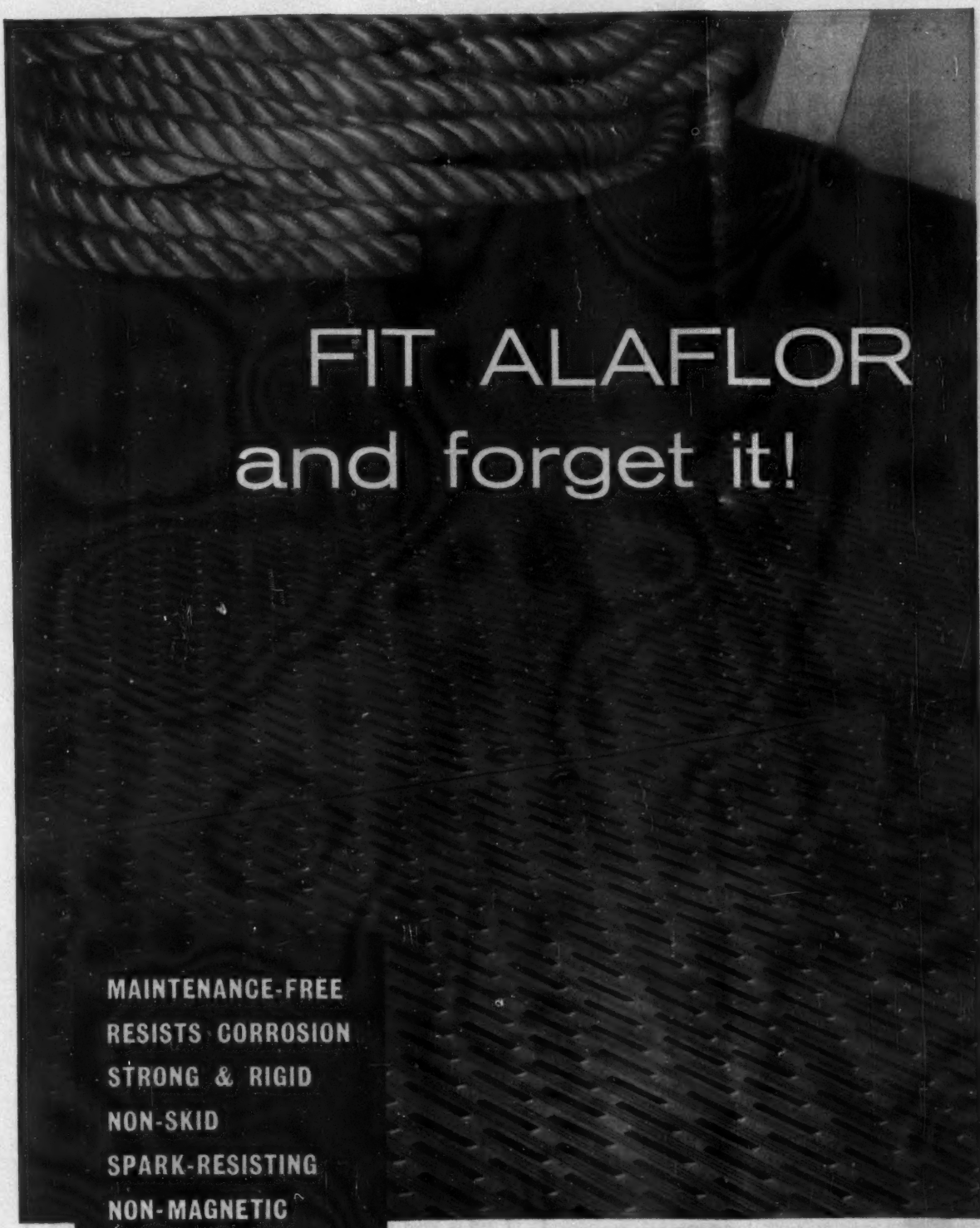
The Propeller Corrosion Panel decided that the most hopeful remedy for preventing impingement attack on propellers lay in cathodic protection. Trials have now been initiated to study the practical performance of various systems of cathodic protection and a number of shipowners who are experimenting with cathodic protection are providing a good deal of useful information.

"Results have also been reported from the sea trials and roughness measurements carried out on a 32,000-dwt tanker after six years in service. The results obtained indicated that an increase in shaft horsepower of 27 per cent was required to maintain the service speed compared with the ship when new, and this is broadly in agreement with the results of similar trials that have been carried out on other tankers. The data obtained from these repeat trials are a vital part of the information required to assess the technical value of different hull treatments, which in turn is a necessary part of the broader study of the economics of ship operation.

"At present we are regularly receiving voyage data from 12 ships. The analysis of this volume of data presents difficult problems, but to facilitate this it has now been transferred to punched cards. The aim of this work is to develop general methods of analysing voyage data, although the results for the ships are naturally of interest in themselves.

Investigation into seakeeping is being carried out jointly by BSRA, the National Physical Laboratory, and the National Institute of Oceanography, and with the assistance of the Admiralty. This year has seen the completion of a series of trials on the *Cairndhu*, and similar trials have been conducted on the research trawler *Ernest Holt*. Results obtained from the *Weather Reporter* trials have been analysed at the NPL, where model tests are now in hand. A number of preliminary reports dealing with the *Weather Reporter* trials have been considered by the panel that is dealing with this work and the first of the detailed reports will soon be reaching the industry.

The NPL Coordinating Committee is arranging to hold a seminar at the NPL this month in order to enable those interested in this work to familiarise themselves with the language and science of ship motion.



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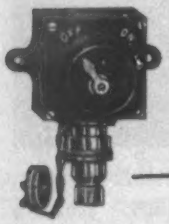

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The Doxford & Sunderland Shipbuilding & Engineering Co. Limited

SUBSTANTIAL BENEFITS ENVISAGED FROM MERGER

Dr. J. Ramsay Gebbie on Current Prospects

THE annual general meeting of The Doxford & Sunderland Shipbuilding & Engineering Co Ltd will be held in London.

The following is an extract from the circulated statement of the chairman, Dr J. Ramsay Gebbie, C.B.E.:

The merger with the Sunderland Shipbuilding Dry Docks and Engineering Company Limited (The Sunderland Group) became effective on 6 June 1961.

Your Board is confident that in the long run the Merger will prove of great benefit to the Company's Stockholders.

The Consolidated Balance Sheet shows the united strength of the two Groups now merged with Net Assets in excess of £12,000,000.

Capital Expenditure

In view of the intense competition from shipyards and engineering works both at home and abroad it is clear to your Directors that further considerable capital expenditure will have to be made in the next few years, and the position is being closely analysed to determine the amount of the expenditure necessary and to establish the priorities which will produce the maximum benefits.

The further and rapid development of the Doxford Oil Engine is clearly a matter of major importance and will entail heavy outlay so that the maintenance of ample resources is essential and Stockholders will of necessity have to be asked to keep this in mind in the years immediately ahead.

Operation of the Subsidiary Companies

During the year our three Shipyards and the Doxford Engine Works have continued to work at high capacity.

The other Engineering and Shiprepairing Companies have again experienced a difficult year dependent as they primarily are on marine work where competition for the work available is intense.

Eight of the new Doxford "P" engines are now in service, the first for about seven months, and I am glad to be able to report that they show every prospect of being completely successful, and a considerable number of these engines are now under construction or on order with ourselves and some of our Licensees.

As I told you last year, we are proceeding with all possible speed with the design and construction of a further new type of engine designed to give ultimately power of up to about 25,000 bhp, and the construction of new test and erecting bays, together with a new welding shop, is well in hand.

With these extensions we consider we will have one of the best and most up-to-date plants of its kind in the country.

Major reconstruction schemes at Joseph L. Thompson's Shipyard are now complete and will permit the building of tankers up to 100,000 tons deadweight.

New plater's and welding sheds are being built at Sir James Laing's Shipyard.

Outlook

The depression which has existed in freight markets for several years still continues though tramp-ship freights have improved a little and more employment for these ships is available.

All our shipyards and the engine works have received a number of new orders during the year and all of them will be well occupied during the current financial year, while a considerable number of orders are also on our books for the following year.

The prices at which orders are now obtainable, however, leave little or no margin for profit and where deferred terms of payment have to be conceded there is a substantial time-lag before final payment. In cases where fixed prices have had to be accepted any further rise in wages or materials will have to be borne by us. In these circumstances it is to be expected that there will be a further reduction in profits for 1961/1962.

Much hard work and thought will be needed to obtain the best results from the enlarged Group but we have a team of highly experienced executives who are well qualified and capable of tackling all the difficult problems ahead.

PORT OF LONDON TRADE

THE ANNUAL REPORT of the Port of London Authority shows that the shipping using the port in the year to 31 March 1961 totalled 54,997 vessels of 87,805,013 nrt. These totals are made up of arrivals and departures. The tonnage is lower by nearly 1.4 mn than the record figure for the previous year. On the other hand the tonnage of goods passing through the port, including transhipments, established a new record at 58,904,701 tons. This was 1,761,282 tons more than the corresponding figure for 1959-60; petroleum cargoes accounted for 23,075,923 tons and showed an increase on the previous year of over 2 mn tons. The report states that the reduction in the general goods traffic of the port "was undoubtedly due to the strike of tally clerks during September/October 1960 when a large section of the port was brought to a standstill and no fewer than 196 ships due for dock berths were diverted to other ports in this country and the Continent."

BOOK REVIEWS

Erzfrachter (*Ore Carriers*) by K-H. Schwadtke (Karl-Heinz Schwadtke, Berlin-Tempelhof, Wittekindstrasse 13, Western Germany. Price DM3.)

To any reader interested in ship drawings and profiles, the name of this author needs no introduction. This, his latest work and the first to be published by himself, contains a selection of data and more than 100 scale drawings of modern bulk carriers and combined ore/oil carriers. Only vessels with the characteristic outline of the modern bulk carrier have been included. The drawings are all to the same scale (1:1,250) and have been executed with the thoroughness of detail and artistry that Mr Schwadtke always shows in his work.

Merchant Ships—World Built, Volume 9, 1961 (Adlard Coles Ltd, 7 Brunswick Place, Southampton. Price 35s.)

This invaluable reference book giving details and photographs of the world's tonnage completed during 1960 has now appeared. In this edition the presentation of the principal section, the register of ships of 1,000 grt and over, has been condensed and clarified. It is now in alphabetical form and consequently easier to follow. The book opens with an authoritative review by Mr A. C. Hardy covering the principal developments during the year. After this comes the alphabetical register of ships over 1,000 tons, with numerous illustrations adjacent to the entry. A special section giving details of certain ships under 1,000 grt follows. Complete statistics of merchant ships launched during 1960 have been included, taken from Lloyd's Register of Shipping Annual Summary. A particularly welcome feature of this standard work is the reduction of the price by 10s, while retaining all the valuable features that have made this book unique.

NEW CONTRACTS

Shipowners	No. of Ships	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Delivery	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
West Hartlepool S. N. Co Ltd	1	Cargo	14,500	—	—	—	Diesel	—	Shipbuilders	Wm. Doxford & Sons
West Wales S.S. Co	1	Ore carrier	—	—	1962	—	Doxford diesel	—	—	Austin & Pickersgill
Marconi Int. Marine	1	Research vessel	—	82 × 20	1962	—	Twin 6-cyl diesels	—	Gardner	Wm. Weatherhead & Sons, Berwick
Corporation of Trinity House	1	Light tender	1,425	—	—	—	Twin-scr. diesel electric	—	—	J. Samuel White & Co
Overseas Yards										
Irish Shipping Ltd	1	Bulk carrier	15,000	500	—	15	Diesel	—	—	Verolme Cork Dockyard

LAUNCHES

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Sept. 22	Westminster Plant Co	*Cosray 26* (431/1)	Barge	(240)	—	—	Diesel	—	—	Ardrossan Dockyard
Sept. 22	Rea Towing Co	*Maplegarth* (137)	Tug	(230)	—	—	Diesel	—	—	P. K. Harris & Sons
Sept. 25	Govt. of Ghana	*Asuokaw* (151)	Fishing vessel	(250)	(130)	11	Diesel	1,000	National Gas	P. K. Harris & Sons
Sept. 25	John H. Whitaker (Tankers)	*Humber Industry* (34)	Coastal tanker	(211)	—	—	Diesel	200	—	Yorkshire Dry Dock
Sept. 25	W. H. Podd	*Mincarlo* (281)	Trawler	(166)	—	—	Diesel	—	—	Brooke Marine
Sept. 26	Turnbull, Scott & Co	*Baxtergate* (393)	Cargo	10,600 (8,700)	440 × 61.75 × 39.25 (26.5)	—	4-cyl Doxford diesel	6,640	Hawthorn Leslie	Burntisland S.B. Co
Sept. 28	Thos Hamling & Co	*St Gerontius* (976)	Trawler	(600)	169.67(187) × 31.75 × 16.75	—	8 cyl Werkspoor diesel	—	C. D. Holmes	Cook Welton & Gemmell
Overseas Yards										
Sept. —	D.D.G. "Hansa	*Altenfels* (879)	Cargo	7,000	—	—	Diesel	—	M.A.N.	A. G. Weser, Bremerhaven
Sept. 6	U.S.S.R.	*Simferopol* (143001)	Cargo	(9,000)	—	—	Diesel	—	—	Stocznia Gdanska
Sept. 16	Empresa Lineas Maritimas Argentinas	*Rio Colorado* (478)	Cargo	11,000 (7,400)	471.1 × 64 × (26.9)	16.5	Diesel	10,300	Fiat	Brodogradiliste "111 Maj"
Sept. 17	Sudan Shipping Lines	*Sennar* (235)	Refrig. cargo	4,800 (3,650)	—	—	B & W diesel	—	Shipbuilders	Brodogradiliste Uljanik
Sept. 24	Sidermar S.A.	*Centauro* (1579)	Bulk carrier	32,650 (24,400)	636.5 × 92 × 51.42 (34.25)	17	Fiat diesel	16,800	Shipbuilders	Ansaldo S.A., La Spezia
Sept. 25	A/S Borgestad	*Brevik* (762)	Bulk carrier	16,000 (12,300)	(518.25) × 70 × 42 (30.33)	14.5	8-cyl diesel	6,000	Shipbuilders	Gotaverken
Sept. 25	Cie. Nationale Belge de Transports Maritimes	*Gand* (1374)	Cargo	10,800 (7,658)	—	—	M.A.N. diesel	—	S.E.M.	Jos Boel & Fils
Sept. 25	Nieuwe Halcyon Lijn	*Stad Den Haag* (590)	Cargo	15,500 (10,890)	498.58 × 66.2 × 41.25 (29.95)	14	Diesel	5,340	M.A.N.	Flensburger Schiffabau
Sept. 25	Western Shipping Corp	*Vishva Shanti* (149)	Cargo	12,300 (9,200)	464.58 × 63.75 × 39 (29.58)	16.5	Diesel	7,650	M.A.N.	Hindustan Shipyard
Sept. 28	Cie. Auxiliare de Navigation	*Fauste* (236)	Tanker	49,150 (30,000)	723.1 × 100.42 × 52.5 (39.33)	17	Tw.-scr. diesel	22,200	Burmeister & Wain	Ac. et Ch. de Dunkerque

TRIAL TRIPS

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Sept. 25	City Steam Fishing Co	*Arlanda* (966)	Trawler	(410)	137.2 × 28 × 14.5	—	8-cyl diesel	1,100	Mirrlees Bickerton & Day	Cook, Welton & Gemmell
Sept. 28	Consolidated Fisheries	*Real Madrid* (527)	Trawler	(441)	137.25 × 28 × 14.25	12.61 (T)	8 cyl diesel	1,120	Mirrlees Bickerton & Day	Goole S.B. Co
Sept. 30	Clan Line of Steamers	*Clan Fraser* (1921)	Cargo	10,000 (9,240)	460(496.58) × 62.25 × 37.5(28.2)	15	6 cyl Doxford diesel	7,100	Wallsend Slipway	Swan, Hunter, Wallsend
Oct. 2	Caledonian S.P. Co (Irish Services)	*Caledonian Princess* (1501)	Cross channel ferry	620 (3,600	(353) × 55 × 17.5(12)	20.5	Tw.-scr. geared turbine	11,500	Shipbuilders	Wm. Denny & Bros
Oct. 3	Williamstown Shipping Co	*Cornishbrook* (250)	Cargo	2,250 (1,599)	(260.25) × 39.2 × (16.67)	—	8 cyl diesel	1,210	Deutz	Clelands Successors
Oct. 3	Devanha Fishing Co	*Kinellan* (317)	Trawler	(209)	(116) × 23 × 12	—	6-cyl diesel	675	Crossley Bros	John Lewis & Sons
Overseas Yards										
Sept. —	Leo Adams, Hamburg	*Leada* (879)	Cargo	7,700 (3,500)	377.25(417.67) × 53.1 32 × (22.18)	14.5	7-cyl diesel	3,900	M.A.N.	H. C. Stulcken Sohn
Sept. —	D. G. Neptun	*Najade* (819)	Cargo	6,822 (4,850)	403 × — × (22.25)	15.5	6 cyl M.A.N. diesel	—	Shipbuilders	Blohm & Voss
Sept. —	A. P. Moller	*Katrine Maersk* (154)	Tanker	39,00w (24,700)	655 × 91 × 48.67 (36.58)	15.5	Geared turbine	12,500	G.E.C.	Odense S.B. Co
Sept. 6	Rederi A/B Nordic, Stockholm	**Nordic* (1071)	Cargo	(6,000)	(377.75) × — × (24.5)	15	6 cyl G.V. diesel	4,550	Shipbuilders	Lindholmens Varv
Sept. 11	J. Lauritzen	*Brita Dan* (163)	Cargo	3,700 (3,000)	288.76 × 46.5 × 26.25 (21.75)	13.5	B & W diesel	3,250	—	Bijkers Aanem. N.V.
Sept. 13	Hinrich Witt	*Helger Witt* (531)	Cargo	6,100 (4,400)	344.5(379) × 52.5 × 30	15.5	7-cyl Fiat diesel	4,000	Borsig A.G.	Lubecker Flender-Werke
Sept. 18	Cia. Colonial de Navegacao	*Infante Dom Henrique* (814)	Pass	(24,061)	587.33(641.42) × 80.42 × 46.95(26.25)	20	Geared turbine	22,000	Shipbuilders	Cockerill-Ougree
Sept. 22	Hamburg Sudamerikanische	*Cap San Marco* (1143)	Cargo	10,300 (7,500)	473.9(523) × 70.25 × (24.67)	20	9-cyl M.A.N. diesel	11,650	Shipbuilders	Kiel v. Howaldtswerke

* Launched as *Nordia*, now under charter to Cunard Line

MARITIME NEWS IN BRIEF

As a result of the purchase of A. C. Cossor Ltd by the Raytheon Company of Massachusetts, U.S.A., the following have been elected to the board of A. C. Cossor Ltd: Mr C. F. Adams, chairman of the Raytheon Company; Mr R. E. Krafye, president of the Raytheon Company; and Dr C. L. Calosi, vice-president of the Raytheon Company. Major-General Sir Miles Graham continues as chairman, and Mr J. S. Clark as managing director.

Mr M. Arnet Robinson has been appointed vice-chairman of Coast Lines Ltd while retaining his position as managing director. Mr J. R. Turner, a director, has been appointed an assistant managing director.

Mr D. J. Donaldson, a general manager of the Peninsular & Oriental Steam Navigation Company and a director of Anderson, Green & Co Ltd, has retired.

Commander A. B. Dickie and Mr F. H. Stimson have been appointed assistant directors of Newman Hender & Co Ltd, manufacturers of industrial valves and allied products. Commander Dickie, head of the Group Research and Development Division will continue as director of that division. Mr Stimson, who has been deputy to the sales director, also will continue in his present field, as assistant director of sales.

Mr J. Boocock has been engaged by D.M.M. (Machinery) Ltd, Universal House, Buckingham Palace Road, London SW1, to handle their range of Lohmann & Stolterfoht gears and couplings. Mr Boocock is a specialist in the application of diesel engines for marine use and for many years worked for Crossley Bros Ltd.

Mr I. T. Morrow has been appointed a director of H. Clarkson & Co Ltd.

Mr W. M. French, Belfast district secretary of the Merchant Navy & Airline Officers' Association, has died. Before becoming an official of the M.N.A.O.A. in 1941 he had served in the Head Line (Ulster Steamship Co Ltd), Belfast, in all ranks from cadet to master.

Major General E. S. Cole, formerly Director of Telecommunications at the War Office, has joined Ultra Electronics Ltd to coordinate the company's new Telecommunications Division.

Mr R. B. Stoker has been appointed deputy managing director of Manchester Liners Ltd.

Mr A. V. Blunt, treasurer of the Tyne Improvement Commission for the last 25 years, has retired. He will be succeeded by Mr V. A. Thompson.

Colonel Mark Whitwill has been elected president of the Bristol Channel district of the Association of Chartered Shipbrokers in succession to the late Mr R. G. M. Street. The new chairman is Mr J. Hartly Hodder.

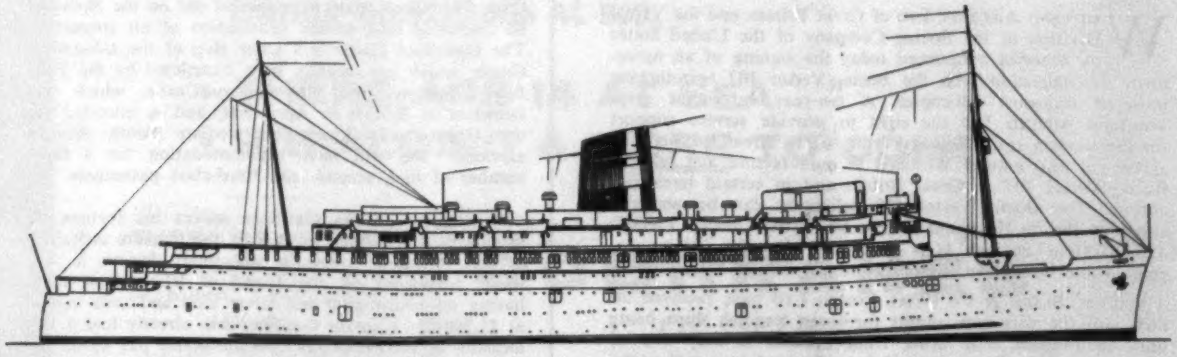
SHIPBUILDING CONFERENCE ELECTIONS

MR ALEXANDER H. WHITE (left), deputy chairman of Lithgows Ltd, Port Glasgow, has been elected president of the Shipbuilding Conference in succession to Col T. Eustace Smith, chairman and managing director of Smith's Dock Co Ltd. The new vice-president is Mr A. J. Marr, chairman and managing director of Sir James Laing & Sons Ltd, Sunderland

Mr J. Waddell, executive director of Turner Brothers Asbestos Co Ltd and of Glass Fabrics Ltd, has been appointed managing director of both companies. He continues to be the executive director of J. W. Roberts Ltd. Mr E. R. Pochin, home sales director of Ferodo Ltd, has been appointed managing director. Mr M. H. Good, the home sales manager succeeds him as home sales director.

* * * *

Tourism became Britain's fourth largest export in 1960, according to the British Travel & Holidays Association in its annual report. Tourist earnings were £40 million higher than the export of electrical machinery and £55 million more than the overseas sales of new motor cars. Altogether £273 million, including fare payments to British carriers on international routes, was spent by the 1,669,200 visitors to Britain in the year. Both the numbers of visitors and the revenue to Britain were up by about 20 per cent on 1959. The annual total of overseas visitors to Britain increased by 170



A FACE-LIFT FOR THE "QUEEN OF BERMUDA"

Apart from the "Queen Mary", the handsome "Queen of Bermuda" owned by Furness Withy & Co Ltd, is the last ocean going liner to have three funnels. This distinctive feature is now to be removed during a major overhaul starting this month at the Belfast yard of Harland & Wolff Ltd. She will also lose her straight stem which is being replaced by a curved one. Improvements include full air conditioning, more accommodation for the crew and refurnishing in the passenger quarters. The new profile of the liner is seen above. It appears to be food for thought that a vessel as large as the "Queen of Bermuda", which was built in 1933, should be considered worth while altering to the extent proposed. However, it seems that the Caribbean trade keeps vessels in commission for far longer than most others, as the 40-year old "Nassau" is at present receiving a complete modernisation and there are several others in the trade that have received similar treatment

The Freedom of the Borough of Falmouth is seen being conferred on Mr H. A. J. Silley, a director of Silley Cox & Co Ltd, Falmouth Docks & Engineering Company, R. & H. Green & Silley Weir Ltd and the P & O Steam Navigation Company, by the Mayor of Falmouth, Alderman W. E. Cavill. The Mayor is himself an employee at the Falmouth Docks

per cent in the decade 1950-1960 and the amount spent by them in Britain and in fares to British carriers by 210 per cent.

THE DEATH has occurred of Mr F. P. Whithouse, immediate past chairman of the Baltic Exchange. Mr Whithouse had been a member of the Exchange since 1909. He was elected to the board of directors in 1949, and held office as chairman from May 1959 until May of this year.

BROWN, JENKINSON & Co LTD have been appointed U.K. agents for the Sidarma West Africa Line operating regular sailings from Genoa, Leghorn and Naples to West African ports between Dakar and Lobito and vice versa.

COAST LINES LTD, Liverpool, have acquired the port to port shipping service operated for a long period by the Clyde Shipping Co Ltd between London and Belfast. Coast Lines Ltd will operate a regular service on this trade. The Clyde Shipping Co Ltd will continue to maintain its Liverpool-Waterford service. It is also expanding its Clyde tug service.

THE cargo ship *Glaisdale* arrived in the Royal Albert Dock on the afternoon tide of September 27 with a cargo of 8,161 tons of grain from Norfolk, Virginia. Work of discharging overside into craft using five floating grain elevators commenced at 8 a.m. on September 28, and the whole consignment was completely discharged by 4 p.m. on September 29.

* * * *

WESTLAND AIRCRAFT LTD of Great Britain and the Vertol Division of the Boeing Company of the United States of America announced today the signing of an agreement in connection with the Boeing-Vertol 107 twin-turbine powered transport helicopter. A ten-year agreement gives Westland Aircraft Ltd the right to provide service support for the tandem rotor Boeing-Vertol 107 in Great Britain. The agreement also entitles Westland to manufacture and sell the Boeing-Vertol 107 in Great Britain and in certain territories abroad. The Boeing-Vertol 107 helicopter can be powered either by the de Havilland Gnome or by the General Electric T58-8 turbine engines. It is anticipated that the Gnome engines would be used in any production of the 107 by Westland.

MARTIN, BLACK & Co (WIRE ROPES) LTD have received an order for the wire rope outfits for seven Swedish ships being built in Finland. The order from Finland is only one of several that have been received from Finland in recent years. Sweden is also a customer of the Coatbridge firm, particularly with large diameter high-strength wire ropes for earth moving.

THE Karachi Shipyard & Engineering Works has secured a contract for the building of a twin-screw oil tanker, worth three million rupees, for supply to a private company. She will be the second of her type to be built at that shipyard, with a steel hull measuring 155ft 6in long overall, and powered by a diesel engine giving her a speed of 10.75 knots.

WORMS & Co of Paris, the shipping concern which used to run a fortnightly service from Middlesbrough to Northern French ports have reinstated their sailings. The first vessel on the fortnightly service was the Dutch-built *Overysel*, which will also call at the Tyne and Grangemouth to load, and will discharge at Dunkirk, Rouen and other French ports.

EIGHT SHIPS are still left on the bottom of the harbour of Narvik of the 36 which were sunk there during the campaign in 1940. Among the eight are the two Norwegian naval vessels *Eidsvoll* and *Norge*, and two German destroyers. The *Eidsvoll* is apparently too wrecked to be salvaged but the rest will be raised before the end of 1962. Narvik, which is one of the biggest harbours in Norway and especially important as a shipping place for iron ore, has approximately 3,000 ship calls per year.

THE U.K. passenger agency of the Incres Steamship Co Ltd is now handled by Barber Steamship Lines Ltd, Palmerston House, 51 Bishopsgate, London EC2 (telephone: London Wall 7301).

TRANSPORT DEVELOPMENT GROUP LTD has made offers to acquire the issued preference and ordinary share capital of the Thames Steam Tug & Lighterage Co Ltd. The latter company was incorporated in 1856, and its main business is that of lighterage, contractors on the rivers Thames and Lea and on the Grand Union Canal. The Company operates some 600 barges and over 20 tugs and launches.

THE Royal National Life-boat Institution has decided to fit echo sounders as navigational aids in all new life-boats. Experiments designed to test the practical value of echo sounders in life-boats and to discover the most suitable type of equipment available have been carried on over the past four years.

YALE & TOWNE British Materials Handling Division has won an order for 16 trucks worth £26,000 for use in the port of Valletta.

THE oldest working Hancock oxygen cutting machine, manufactured in 1924, has been presented to the Birmingham Museum of Science & Industry by Professor E. C. Rollason, Professor of Industrial Metallurgy at the University of Birmingham.

FIFTY YEARS AGO

From THE SHIPPING WORLD of 11 October 1911

The finely modelled and well-equipped twin-screw steamer *Guildford Castle*, of about 8,200 tons gross, launched so recently as August 11 last by Messrs. Barclay, Curle & Co. Ltd., Whiteinch, to the order of the Union-Castle Steamship Company, Ltd. (Messrs. Donald Currie & Co., managers), successfully ran her trials in the Clyde last week, and left on Thursday night, 5th inst., for London to take up sailings for the Cape. Her speed trials were carried out on the Skelmorlie measured mile to the satisfaction of all concerned. The *Guildford Castle* is a sister ship of the *Gloucester Castle*, which has recently been completed by the Fairfield Company, and the *Galway Castle*, which was launched at Belfast in April last, and is intended for the Union-Castle Line's intermediate South African services. She will have accommodation for a large number of first, second, and third-class passengers.

If Captain Charles Gardiner makes his fortune by salving H.M.S. *Lutine*, or at least the treasure contained in that venerable wreck, he will richly deserve it. The vessel foundered off the Island of Vlieland in 1799, having on board gold and silver bars and coin valued at £1,200,000. Captain Gardiner has already had a fair measure of success in his operations. He has bared the hull of sand and penetrated to the hold. There, however, it has been found that the gold has become armour-plated. When the ship collapsed the cannon balls stored in her magazine fell on to the treasure. They have become rusted together, and it has been necessary to use dynamite to break down the iron shield. Success seems very near now, for already gold has been obtained from the wreck.

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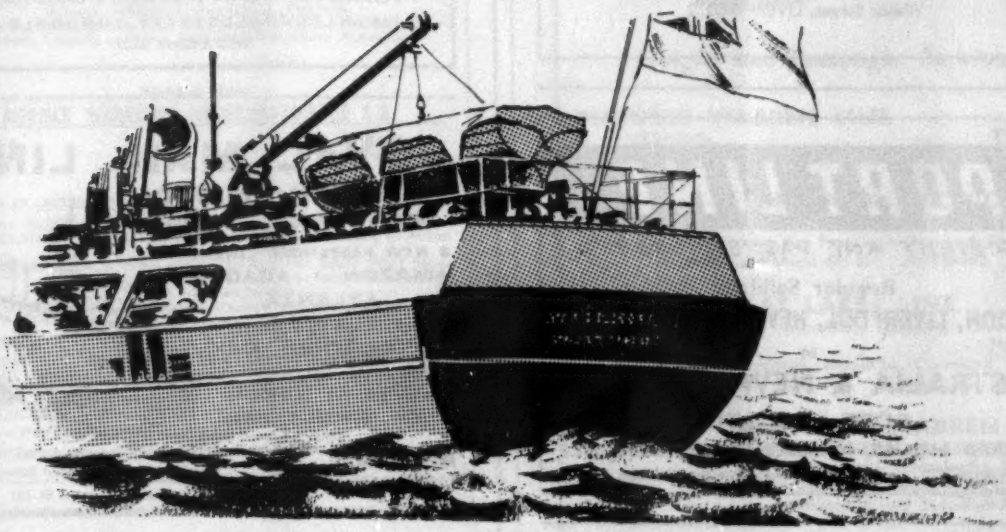

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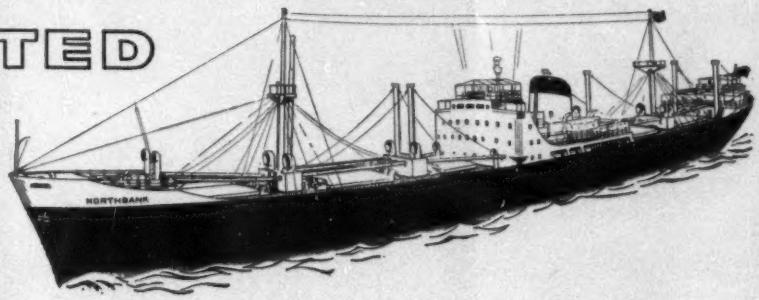

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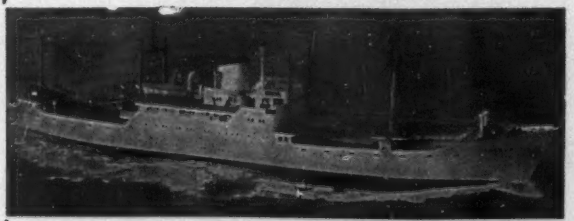

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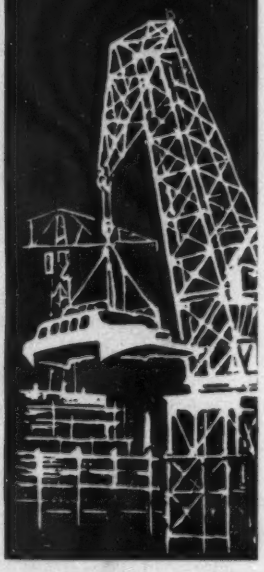

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